

# Antiquity

## A Quarterly Review of Archaeology

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### Editorial Notes

IN this number we publish an account of some remarkable discoveries in the hinterland of Aden, lying behind the mountains that fringe the southern coast of Arabia, now part of the Aden Protectorate. It has been explored by Europeans who have brought back drawings and squeezes, and, more recently, photographs, and the results of excavations. Modern accounts will be found in Rāthgens und von Wissman, 'Sudarabienreise', and in Miss Freya Stark's 'Seen in the Hadhramaut', concerning districts to the north and east which are closely related to the sites described here.



Southern Arabia before Islamic times was divided into warring kingdoms, but the cities were wealthy and developed an interesting civilization which lasted from about 800 B.C. to A.D. 600. The land therefore is not without a history. The Sabaeans, the men of Qataban and Dhu Raidan, were literate when our own ancestors were still in the prehistoric period; and their country is celebrated as the realm of the Queen of Sheba. Men like Halevy and Glaser and Wyman Bury have given accounts of sites which must be considered with those here recorded by Mr Stewart Perowne (pp. 133-7).



During the winter of 1937-38 an English expedition consisting of Miss Gertrude Caton Thompson, now President of the Prehistoric Society, and Miss Gardner, went out with Miss Freya Stark and

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directed the first scientific excavation ever carried out in the Hadhramaut (see *Asia*, April 1939). Not only did they find and excavate remains of the historical period (dating to somewhere in the second half of the first millennium B.C.), but they also found abundant remains of the palaeolithic period (flint implements and suchlike). These are found under such favourable conditions that eventually it should be possible to elaborate a chronological scheme, and to determine the successive stages of human development that occurred there. (This has already been achieved in rough outline by the work of British, French and American students in Palestine, especially by the excavation of the Carmel caves, and it is an achievement of which we may well be proud).



In addition, then, to sites such as 'Im'adiya and Nuqub, there are others where important remains are in great and growing danger of spoliation. Unless some sort of supervision is immediately forthcoming, no one acquainted with the circumstances can have any doubt about what will happen. Ignorance of their importance and of the urgency of the task cannot excuse the neglect of a simple administrative matter such as this.



All the work done so far to describe, record, excavate and preserve the antiquities of the Protectorate has been carried out by the enterprise of private individuals. Not only have they and their supporters at home (individuals, be it noted, not in this instance Societies) made themselves responsible for the field-work in Arabia itself, but they will probably have to subsidize the publication of their results. As for the housing of the antiquities found, there is a museum of a kind at Aden, but it owes all its merits to the enthusiasm and public spirit of an amateur who has now left the Protectorate.

What has the Government been doing all this time? The answer is that it has done nothing at all except allow a volunteer to do his best with the museum at his own expense.



It is only fair to state that Mr Harold Ingrams, the British Resident in the Hadhramaut, has a very lively sense of responsibility for the antiquities in his province. Not only has he, personally and on his



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own initiative, made arrangements for housing some of them at Mukalla (inscriptions torn from their context, etc.), but he has also drafted some excellent antiquity laws based on those of other countries. These must however remain ineffective unless followed up by the appointment of a Director of Antiquities to enforce them. He has also earned the gratitude of archaeologists by saving the Hadhramaut from at least three pseudo-archaeological expeditions. (Mr Ingrams is already known to many of us from his articles on the Hadhramaut published in the *Geographical Journal* and *Journal of the Royal Central Asian Society*, the Lawrence Medal of which Society has recently been awarded jointly to him and his wife.



It is necessary that a Director of Antiquities for the Aden Protectorate should be appointed without delay, for now, when the Protectorate and the Hadhramaut is being first opened up, is the very time when the destruction of priceless antiquities will proceed most ruthlessly; and such destruction is irreparable, for there is no other record.

The measures that should be taken are :—

To protect known sites from spoliation.

To remove inscriptions from such sites to the safety of the Aden Museum. Neglect to do this *now* will lead inevitably to the destruction of invaluable texts which are as yet either unrecorded or only inadequately recorded.

The existing remains must be planned and recorded by an archaeologically trained architect before it is too late.

The contents of the Aden Museum need cataloguing, photographing and (so far as possible) publishing. Arrangements for the inscriptions involving no expense to the Government have been made; but more than that is required.



The principle of appointing a Director of Antiquities in such administrations is already recognized elsewhere—for instance in Malta, Cyprus, Palestine and Transjordan—and it was recognized in Egypt and Iraq where they were directly under British control. After meditating for a quarter of a century the Sudan government has at last appointed a Commissioner for Archaeology and Anthropology (Mr A. J. Arkell). It

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is the normal procedure in territories under the French, Italian, Greek and Turkish flags. Other countries which have come later within the orbit of western civilization, such as Iran for instance, stand high in the estimation of people of culture, largely on account of the regard paid to their antiquities. Some of the independent States of India have set a high standard in this respect. In Balkan countries the national monuments are sedulously cared for by properly trained archaeologists ; and the state even subsidizes the excavation and conservation of the more important sites. Only at the heart of the British Empire is it necessary, on each separate occasion when the need arises, to bring public opinion to bear upon lethargy. Nothing else obstructs the execution of a duty which is recognized in every responsible quarter. That the appointment of a whole-time fully trained Director of Antiquities for the Aden Protectorate, with sufficient funds for necessary work, would be welcomed by instructed opinion in this country, is certain. As Editors of ANTIQUITY, we think we can claim to know something of such opinion ; we could not have kept this journal afloat for twelve years if we had not had it behind us throughout. It is therefore, perhaps, not inappropriate that we should celebrate our 50th number with a demand that we are sure will receive the backing of all our readers.



# 'Im'adiya and Beihan, Aden Protectorate

by STEWART PEROWNE

'IM'ADIYA lies about eight thousand feet above sea level, on the plateau known as the *dhahir*, near the precipice, four thousand feet in height, which separates it from the plain on the southern or seaward side. It lies within the territory of the 'Audhala tribe, near the Yemen border. It is ninety miles from Aden as the crow flies, or four days by camel. The nearest inhabited centre is Mukeiras, from which it is about three hours distant on foot, to the east. At Mukeiras the Royal Air Force maintains a landing ground and a rest-house, and the Government has a wireless telegraph station there.

In November 1937, political duties, involving negotiations with the Yemen Government, kept me in Mukeiras for a week. The Royal Air Force authorities in Aden, who have always shown themselves ready to assist archaeological research, permitted Flying Officer Curry, who is an expert photographer, to join me and to make a thorough photographic survey of the site.

The ancient city lay upon and between two of the rugged hills that form the highest point of the whole plateau, and dominate the surroundings on all sides. The site was clearly chosen for strategic reasons. Not only did the fertile plain of the *dhahir* lie beneath its watch towers, but the main route from Aden to Beihan and thence to Shabwa and Ma'rib, passed, as it still does, within a few miles of its walls, because then, as now, there is only one practicable path up the face of the precipice, so that travellers must perforce pass within patrolling distance of 'Im'adiya.

As to the name, 'Im'adiya, I was unable to find any local tradition. If it has been correctly transmitted—this is by no means certain among illiterate tribesmen—it may derive from the Arabic root, 'ad, applied to old times, 'adiya meaning 'ancient'. 'Im', in the local dialect, would be equivalent to 'Umm', which is not infrequently found in Arabic place-names.

'Im'adiya being built on rock, the ruins are clearly visible, neither sand nor vegetation concealing them. They cover a wide area at many different levels. The crags and peaks must have supported towers and walls, while the hollow, forming a rough amphitheatre, seems to have contained the main buildings, these being protected by a wall across the valley. (PLATE I).

The whole site is strewn with blocks of stone, almost as though the



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town had been shaken to pieces by an earthquake, and the ruins left untouched ever since. There is some evidence that this did happen : for the entrance to the city from the southwest passed over a paved causeway (PLATE II), now rendered impassable by great masses of rock which have fallen upon it from above. Owing to the roughness of the ground, and the absence of any centre of habitation in the immediate vicinity it is unlikely that the ruins have ever been used as a quarry.

But there are signs that the city was deliberately damaged by human agency. A large stele, bearing on one side a snake in high relief, was found broken into pieces, of which two were lying at a distance of some forty paces from each other. A third portion, needed to complete the snake, was not found. The stele was presumably a cult object, which offended an iconoclastic conqueror. In places the walls show signs of having been breached and repaired.

Little beyond the heaps of stones remains of the buildings themselves, though here and there a course or two of masonry survives to show the plan of what must have been at least four buildings of considerable size and dignity. A few steps of a stone staircase suggest, by their shallowness and breadth, a sense of comfort in those who caused it to be built.

The finest masonry consists of smooth-faced granite blocks, arranged with the 'knife-edge' fitting which was used in Herodian and later buildings in Syria. The stones are, however, far smaller than those at Hebron, Jerusalem or Ba'albek, perhaps owing to the difficulty of transporting them over such rugged country. The face of the largest stone seen was about four feet by eighteen inches. The quarry was not found ; perhaps the causeway led from it. Two of the blocks in one building bear inscriptions, each of four letters, beautifully executed in high relief, the letters being probably the largest South Arabian characters known. The words are, according to Professor Ryckmans of Louvain, of magical significance, WD'B and YK'N (PLATE III). I found only one other inscription *in situ*, but it was so faintly incised that it could not be copied or photographed.

There is a cistern on the site with a carefully devised system of supply-conduits. Whether this is contemporary with the buildings I cannot say. I neither found nor heard of any well.

I obtained on the site two stones bearing inscriptions which are now in the Aden Museum. One, of marble, seems to have been an altar-top. The votive inscription, in the Qatabanian dialect, Professor Ryckmans tentatively ascribes to the fifth or sixth century A.D.



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The site generally called 'Beihan' lies near the village of Nuqub, three thousand feet above sea level, about ten miles northeast of the town of Beihan and but a few miles from the point where the wadi of the same name debouches into the desert. It is about five days journey by camel from 'Im'adiya and nine from Aden, from which it is distant about 130 miles as the crow flies.

The ruler of the territory is the Sharif of Beihan, or rather his regent, he being a minor. A neighbouring village is occupied by Sayyids; on the side towards the desert lie the Bal-Harith Arabs, who are—or were—on friendly terms with the Sharif. I visited Nuqub in May 1938, and again Flying Officer Curry was permitted to accompany me. A thorough photographic survey was made both on the ground and from the air. This was supplemented in December by Mr James Duncan, whose more prolonged and detailed observations are incorporated in the following notes. Beihan—for such, as one of the inscriptions found on the site records, was its name in antiquity—lies about half an hour by camel or horse down the wadi from the Nuqub landing ground. It is two days by camel from Ma'rib and four from Shabwa. Its importance was probably due to its position at the junction of the Aden route with the Shabwa-Ma'rib and Cana-Ma'rib routes, that is, the incense road running from the capital of the Hadhramaut to that of Saba. It would be possible, by going through the desert, to pass by Beihan; but if its rulers were hostile, any caravan that did so would be liable to a flank attack. Actually, it was probably always preferable to go via Beihan, because it is furnished with wells. In May 1938, it was reported that a force was collecting at Ma'rib, in Yemen territory, to march on and occupy Shabwa. Spies reported that, unless the expedition could pass through Beihan, which was out of the question, it would be impossible to reach Shabwa until new wells were dug near Harib.

The site lies among sand-dunes which fill nearly all the space between the two ranges of mountains flanking the valley, at this point about two miles apart. The wadi itself is broad, sandy and smooth, with areas of cultivation on either side. The site crowns a little mound on the northeast bank of the wadi. It is oval in shape, the axes being about eight by five hundred yards. From the air, the line of the walls shows up very clearly, and the ground plan of numbers of buildings can be traced. The site is free of modern dwellings, except for one *dar*, with its outbuildings.

On the eastern side of the wadi, about three-quarters of a mile away, is a small, conical hill, which clearly served as a quarry for the



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builders of Beihan. The galleries from which the stone was hewn can easily be descried.

The track from the landing ground leads to a gateway in the south-west corner of the walls. The masonry of the corners is clearly visible, also the actual entry. But the gate seems to be a patch-work, as it includes in its walls an inscribed stone, evidently taken from some other building. A two-line inscription in large characters is cut into the stones to the left of the door. Another inscribed stone lies in the doorway itself. All these three inscriptions were photographed.

It is not easy to tell the walls from the dunes; all alike are blanketed with sand. But from the declination of the ground and an occasional glimpse of masonry, it seems possible that considerable portions of the walls may be almost intact.

Of buildings within these walls there are traces on all sides, stones, fragments of walls, and corners. But of only one are there visible any substantial remains; two sides of a building whose walls were divided into bays, a style of architecture which is found also in a detached building in the wadi. Enough remains—the walls rise to six or eight feet—to show the type of masonry. The stones are of great size, far larger than anything observed at 'Im'adiya, and not squared, but fitted together with great skill. The same type of building is still used locally, where stone buildings of great height and strength are to be found in large numbers. Within this building Mr Duncan found heaps of ore, which leads him to believe that it was the mint.

Near this building is visible the upper eight feet of a stele, inscribed on all four sides. This was reported to have been 'seen' by G. Wyman Bury in 1909. It was photographed on both of the visits made in 1938.

There are numerous wells, some within the confines of the ancient city and one in the wadi below, near the projecting outwork. Of the latter there remains a paved platform, at some twenty feet above the wadi bed, and behind part of a wall of the same type of masonry. There are also extensive traces of sun-dried brickwork in the vicinity.

The building is still called *al-Kanisa*, the church, and seems to have been the temple to which the inscription mentioned below refers. It must have been a substantial and important edifice.

Mr Duncan also located the cemetery on a hill to the northeast. He examined a number of tombs, most of which had already been rifled. This cemetery is the reservoir of the alabaster plaques and statuettes that keep trickling into Aden.

Some of the buildings within the walls were constructed of smaller



PLATE I



'IM'ADIYA, ADEN PROTECTORATE : GENERAL VIEW FROM THE NORTHEAST (*see* p. 133)



PLATE II



PAVED CAUSEWAY OF STONE SLABS LEADING TO THE ENTRANCE OF THE CITY OF 'IM'ADIYA  
Now rendered impassable by masses of fallen rock (*see* p. 134)



PLATE III



GRANITE BLOCKS, 'IM'ADIYA, SHOWING INSCRIPTIONS OF MAGICAL SIGNIFICANCE CUT IN HIGH RELIEF (*see* p. 134)





## 'IM'ADIYA AND BEIHAN

dressed stones and in one of them an alabaster box which was brought to me was said to have been found. It was of beautiful workmanship, a cube in external form, embellished with bulls' heads in high relief. It contained two circular compartments, rather like a dual inkpot stand, and was perhaps used to contain precious ointments, for which the region was famous (cf. Matthew xxvi, 7 and Mark xiv, 3). A gargoyle in the form of a bull's head, worked in stone, was also brought in. This object closely resembles the spout or gargoyle, also in the form of a bull's head, of an altar-top found by Miss Caton Thompson at Hureidha a few months earlier, and recently exhibited at the Fitzwilliam Museum, Cambridge. The most remarkable object which I had the good fortune to acquire was a little alabaster statuette of a woman or a beardless youth. This Professor Ryckmans has pronounced to be the most beautiful of its type which is known to him. It seems to display a Greco-Roman influence which, taken together with the style of masonry noticed at 'Im'adiya, suggests that the caravans which bore the spices of Arabia Felix to the Mediterranean brought back with them workmen who were conversant with Greco-Roman models.

These three finds, together with all other objects which Mr Duncan and I acquired at Beiha and 'Im'adiya, are now in the Aden Museum.

At the moment of writing, Mr Lawrence Kirwan, archaeologist to the Sudan Government, is making an inspection of the two sites. It is to be hoped that the results will throw more light on them and make possible a proper scientific investigation of sites which promise to be of first-class importance for the elucidation of problems which are still tantalizingly obscure.

The *dar* has built into it two inscriptions. According to Professor Ryckmans one is an abrupt invocation of the irrigation gods; the other records the rebuilding of the temple from bottom to top, to commemorate the overthrow of the people of the Hadramaut and 'Amrum by King Shahr Gaylan, believed by Professor Ryckmans to have lived in the 7th century B.C. In this inscription the name Beiha occurs. This mention of the name is of considerable importance, as it proves that this site cannot, as some have suggested, have been Tamna, which according to Strabo was the Qatabanian capital. One is tempted to inquire—if Beiha was not Tamna, could 'Im'adiya have been Tamna?

In the preparation of these notes I have received the greatest assistance and encouragement, both from Professor Ryckmans and from Mr Sidney Smith, the Director of the Egyptian and Assyrian Department of the British Museum, to whom I wish to record my grateful thanks.

# Stone and Earth Circles in Dorset

by STUART AND C. M. PIGGOTT

THE primary purpose of this paper is to publish for the first time a complete set of plans and descriptions of the Dorset stone circles, and of certain allied monuments in which timber uprights may have played a part but whose visible remains today consist only of encircling banks and ditches. The existence of most of the sites described has been recorded, with full references, in the Ordnance Survey's *Map of Neolithic Wessex*, but we have been able to add several new circles to those listed there. The field-work was undertaken and the surveys made in 1936 and 1937, while in certain instances use has been made of air-photographs to which Mr O. G. S. Crawford has drawn our attention.

For once the county boundary, usually so uncomprisingly arbitrary with regard to prehistoric distributions, is a convenient definition of the area discussed, since the majority of the sites are concentrated in a small area in the Dorchester region, and the two outlying sites are both within the county—one in the Isle of Purbeck and one on the edge of Cranborne Chase. The general geographical setting is familiar from the Neolithic Wessex map referred to above; all the sites are on chalk with the exception of Rempstone, which lies on Bagshot Beds at the foot of a chalk ridge.

The types of monument represented divide, as the title of the paper suggests, into two main groups: free-standing stone circles and monuments in which a circular bank with internal ditch form the main and least destructible features. There is no example within our area of the combination of stone circle with bank and ditch in the Avebury-Arbor Low tradition.

## STONE CIRCLES

As can be seen from the map (FIG. 1), these have a limited distribution on the chalk hills west of Dorchester, with a single isolated example at Rempstone in the Isle of Purbeck. Those of the Dorchester group are all built of sarsen of the local variety which embodies numerous flint nodules; that at Rempstone is of sandstone boulders



## STONE AND EARTH CIRCLES IN DORSET

from the Bagshot Beds. This utilization of local stone is to be expected, but the absence of circles on the Purbeck limestone is curious. So far as we can see, the occurrence of stone circles in the chalk country is dictated by the presence or absence of sarsen—Stonehenge in this as in most other circumstances being a notable exception.

The typology of the Dorset stone circles is simple. They are all of small diameter, ranging from Kingston Russell's 80 feet to the 25



FIG. 1

feet of the Nine Stones, and none of the stones is large. No central stones or outliers appear to exist, and there is no trace of any earthwork associated with the stones save at one small and exceptional site, the smaller circle on the ridge above Litton Cheney, where a single stone remains on the edge of a very slight ditch. The adjacent circle, usually claimed as an earth circle, seems to us to be the remains of a stone circle in which orthostats, now vanished, stood in a low bank, analogous to Meini Gwyr and Penmaenmawr in Wales.<sup>1</sup>

<sup>1</sup> W. F. Grimes, *Proc. Prehist. Soc.* II, 109.

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We have included two destroyed sites and a possible third, which seemed to have sufficient evidence to warrant their acceptance. The Little Mayne circle is of particular importance since that careful observer Roger Gale described it at the beginning of the eighteenth century as having the remains of avenues. Gale had worked with Stukeley at Avebury and his judgment must be respected, and Little Mayne must at least be given some consideration in the discussion of analogous sites.

The nearest analogies to the Dorset stone circles lie to the west—on Exmoor and Dartmoor, and to the north in the Stanton Drew group (the more particularly if the Little Mayne avenues really existed). It is interesting to find that the North Wiltshire type of stone circle, with two concentric settings (as the inner settings of Avebury, The Sanctuary and the Winterbourne Bassett circle) is not represented, although something like it occurs on Exmoor at the Almsworthy Common Circle, with its three concentric rings.<sup>2</sup>

## EARTH CIRCLES

These form a more miscellaneous group than the stone circles, comprising as they do at least two distinct types of monument. All the examples recorded are on the chalk.

The monuments aptly named 'Henge Monuments' by Mr T. D. Kendrick are susceptible of a dual division. Both sub-groups embody the same essential features of ditch with exterior bank, and may contain settings of stones or posts, but we may distinguish them on the criterion of entrances. The first class, to which in Dorset Maumbury Rings belongs, have a single entrance through the bank and across the ditch. Into this class would come not only Maumbury but the Arminghall monument, Woodhenge, the earlier structure at Stonehenge, Gorsey Bigbury on Mendip and Mayburgh in Westmorland. The second class is represented by Durrington Walls (Wiltshire), Arbor Low (Derbyshire), King Arthur's Round Table in Cumberland and Thornborough and Ripon Moor in Yorks, and has two entrances opposed diametrically. Furthermore, as Mr Alexander Keiller points out to us, the single-entranced 'Henges' have this entrance to the northeast, while the double-entrance group have a northwest-southeast alignment.

Despite the remarkable features of its quarry-ditch, Maumbury Rings is a typical enough example of the first sub-group, while the

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<sup>2</sup> H. St. G. Gray, *Proc. Somerset Arch. & Nat. Hist. Soc.* LXXVII, 78.



## STONE AND EARTH CIRCLES IN DORSET

Knowlton circles may belong to the second, but without excavation it is impossible to define the positions of their entrances. The dubious site on Mount Pleasant should, from the position of the one identifiable entrance on the southeast, belong also to the second class.

At Knowlton, the barrow with its distant encircling ditch (as if an enormous disc-barrow) suggests yet another type of structure, and this is corroborated by the analogous site near Eggardon, which may have opposed entrances in normal alignment. It is conceivable that this is in some sense the prototype of the bell-barrow, and an intermediate form is provided by a barrow on the Ridgeway above Upwey, which has a disproportionately wide berm between it and its surrounding ditch. Neither Eggardon nor the Knowlton barrow-in-circle can however be dismissed as an abnormal disc-barrow—a possible comparison may rather be made with the Ysgeifrog circle in Flintshire.<sup>3</sup>

### DATING EVIDENCE

None of the sites described has been excavated except Maumbury Rings, and here the evidence is not so conclusive as might be wished. The critical sherd of cordoned ware must however fall into the Groove-Ware series, and the flint-types are in complete agreement with an Early Bronze Age dating. The presence of the phallic representations carved in chalk may give a clue to some at least of the rites carried out in these sanctuaries.

Elsewhere we must rely on analogy, and one of us<sup>4</sup> has elsewhere suggested that in the free-standing stone circles of Wessex we may see a 'Highland' culture which may be represented by the B1 beaker folk of Breton origin, and in the ditch-encircled 'Henges' a 'Lowland' tradition proper to the A beaker people from Holland and the Rhine mouth—the idea of the open circular temple being common to all sub-groups of Beaker folk. The groove-ware series certainly seems to have its immediate continental analogues in Holland, and its makers may well represent a slightly earlier move along the same routes as the Dutch beaker-folk.

But the Dorset stone circles need not all be of the same date. Mr Christopher Hawkes<sup>5</sup> some years ago indicated the strength of the megalithic tradition in this region, which persisted in barrow construction until Deverel-Rimbury times. The so-called Pokeswell 'Circle'

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<sup>3</sup> C. Fox, *Archaeologia Cambrensis*, LXXXI, 48.

<sup>4</sup> S. Piggott, *Proc. Prehist. Soc.*, IV, 37.

<sup>5</sup> C. F. C. Hawkes in *Antiquaries Journal*, XIII, 433 ff.

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is a barrow with internal stone-setting, and similar structures explored by Warne and Cunnington yielded grave-goods of Middle to Late Bronze Age date.

Whatever may be the absolute dating, there seems every likelihood that the stone and earth circles represent distinct though allied strains, and that the series cannot be earlier than the Early Bronze Age in inception, although their use and possibly their construction may last into the Middle and even into the Late Bronze Age.

There is a class of monument which may represent the 'Henge' idea in some form during the Middle Bronze Age, represented in our area at the barrow group on the southern edge of Big Wood, Winterbourne Steepleton parish (6 in. o.s., Dorset XLVI, NE). Here is a small 'earth-circle', consisting of a bank 90 ft. in diameter, with no perceptible ditch, but with the entire inner area lower than the surrounding ground. It is in fact a 'pond-barrow'; a type known from Wiltshire and normally associated with a group of barrows, but of rare occurrence.<sup>6</sup> Mr G. M. Young has noted seven Wiltshire examples, and has advanced an ingenious and plausible equation of these structures with the early Greek *βόθρος* or *χύτρος*, suggesting that they played a part in ceremonial libations and the evocation of ghosts from the underworld.<sup>7</sup>

### Stone Circles

#### HAMPTON HILL (FIG. 2)

This circle lies in open downland above and to the west of Portesham at a height of 680 feet. The stones are of sarsen. The circle is incomplete, and a high hedge and bank run across from north to south, separating the three most westerly stones from the rest of the circle. Of the eastern half ten stones are probably in their original positions, suggesting an original diameter of 35 feet for the structure. The stones are spaced irregularly and owing to their rough cube-like shapes it is impossible to decide whether they are upright or recumbent, but most seem to be as upright as their shape allows.

*Map of Neolithic Wessex*, no. 143, with full references.

#### KINGSTON RUSSELL (FIG. 3)

This circle, which appears to retain its full number of stones, lies on open downland at a height of 620 feet, south of Kingston Russell.

<sup>6</sup> M. E. Cunnington, *Introduction to Archaeology of Wilts* (1934), 87-88.

<sup>7</sup> ANTIQUITY, 1934, VIII, 459-61.



## STONE AND EARTH CIRCLES IN DORSET

It is sometimes referred to as the Gorwell circle from the farm of that name to the south.

All the stones, which are sarsen, are now recumbent, but in 1815 one stone to the south was still standing. Measuring from the fallen

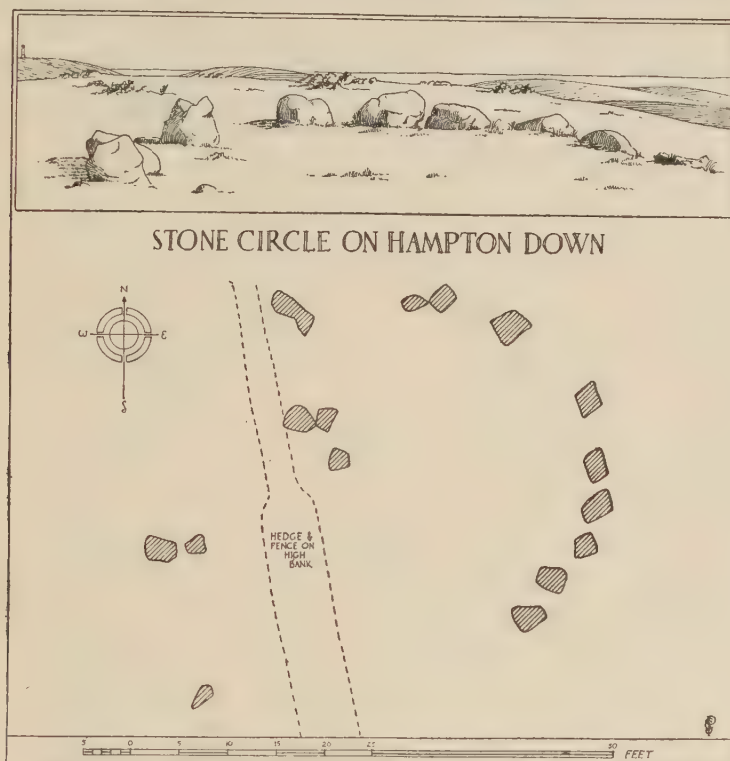


FIG. 2

stones the circle is 80 feet from north to south and 60 feet from east to west, but many of these may not be in their true positions.

*Map of Neolithic Wessex*, no. 141, with full references.

### LITTON CHENEY NO. 1 (FIG. 4)

This small circle lies on the high ground north of the village of Little Cheney on the right hand side of the Dorchester-Bridport road. It consists of a shallow ditch with internal bank, enclosing a somewhat

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oval area measuring 75 feet from north to south, and 63 feet from east to west. The ditch, which dies out on the southeast, where the ground



FIG. 3

has been disturbed, does not reach a depth of more than about one foot, while the bank rises nowhere above 2.5 feet.

It is possible that there was an entrance on the southeast but the bank is disturbed at this point.



## STONE AND EARTH CIRCLES IN DORSET

On the crest of the bank on the southwest 'are three almost circular depressions, some six feet in diameter, and placed twenty feet distant from one another along the circumference of the bank. Another similar depression is on the northeast, while yet another may have existed in the disturbed portion of the bank on the southeast.

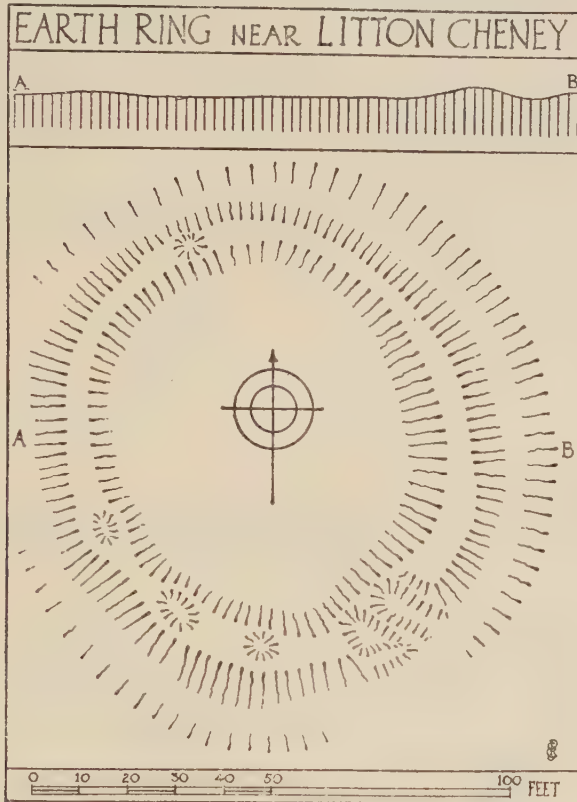


FIG. 4

These indications strongly suggest that this is not an earth circle in the true sense of the word, but that the depressions represent the sites of removed stones. The existing spaces of 20 feet between the depressions would give a total of twelve stones on the circumference of the bank, and as has been stated in the Introduction, analogies to such a circle exist in Wales.

*Proc. Dorset Field Club*, XXIX, 250.

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### LITTON CHENEY NO. 2 (FIG. 5)

This site lies 136 feet from no. 1 at a bearing of  $115^{\circ}$  from its centre. It consists of a very shallow and regular ditch surrounding a circular area 47 feet in diameter. A single sarsen lies on the inner lip of the ditch on the southeast, and may be the sole survivor of a circle.

Three more sarsens lie 90 feet to the south, but their relation to the circle is problematical.

This site was discovered by Mr W. E. V. Young in the company of the writers in 1936.

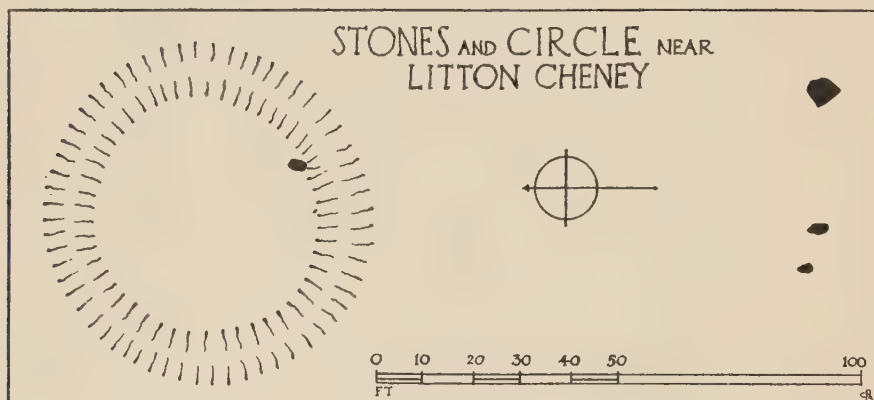


FIG. 5

### THE NINE STONES (FIG. 6)

In the parish of Winterbourne Abbas and on the left of the road from Dorchester to Bridport this circle stands in a valley at a height of 340 feet. It has an iron railing with locked gate surrounding it, and stands in a clearing in a wood.

All the nine stones are standing and enclose an area of 25 feet in diameter; there may have originally been a tenth stone to the north as something seems to have been seen here by Warne. The extraordinary discrepancy in size between nos. 7 and 9 and the remainder of the circle is without parallel in our Dorset series.

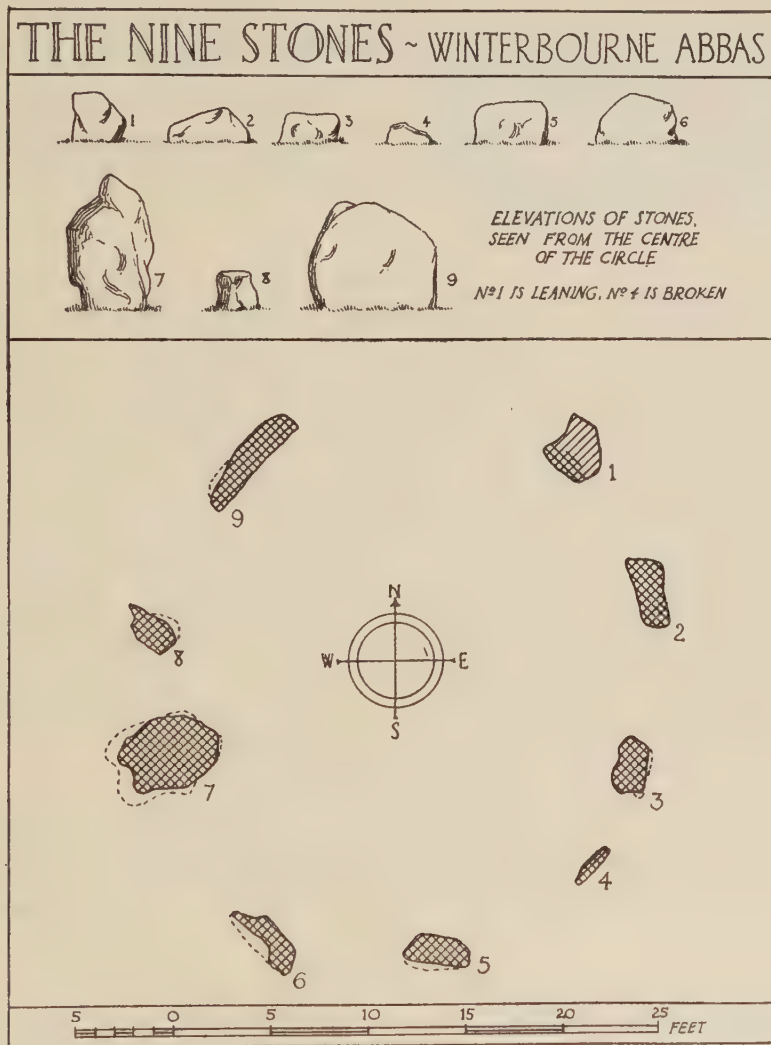
Aubrey visited the site and records the existence of nine stones only, while the circle is shown in the same state as at present in Stukeley's drawing of 1723.<sup>8</sup> This drawing, entitled 'A Celtic Temple at Winterburn' has since been wrongly identified by Mr O. G. S. Crawford

<sup>8</sup> W. Stukeley, *Itinerarium Curiosum*, II, tab. 92.



## STONE AND EARTH CIRCLES IN DORSET

as being that dug into by Dean Merewether in the parish of Winterbourn Monkton in North Wilts.<sup>9</sup>



Warne, who described the site in the nineteenth century, mentions a tenth stone 'which the eye detects just peeping through the long

<sup>9</sup> O. G. S. Crawford, in *Wilts. Arch. Mag.*, XLII, 55.

## ANTIQUITY

grass on the north-east side', but the writers' eyes were not able to detect more than nine in 1936. Warne still further confused the issue by supposing Aubrey's sketch of the Devil's Quoits at Stanton Harcourt, Oxon. (on the same page of his MS as the description of the Nine Stones) to have been another structure nearby.

*Map of Neolithic Wessex*, no. 149, with full references; two early XIXc. drawings in Wilts. Arch. Soc. Library at Devizes, Book N. f. 76. (Information from Mr O. G. S. Crawford).

### REMPSTONE (FIG. 7)

This stone circle stands on the right hand side of the road from Corfe to Studland, in a dense wood half a mile to the south of Rempstone Lodge. Its stones consist of sandstone boulders from the Bagshot Beds on which it stands. Like the Nine Stones it is in a valley, in this instance at the foot of Nine Barrow Down, at a height of 278 feet.

Although the south half of the circle has been destroyed, five stones still stand and three more are recumbent in the remaining part of the setting, indicating a circle of about 80 feet in diameter. On the south-west three more stones are visible but half buried, and although they probably formed part of the circle, it is unlikely that they are still in their original positions. The standing stones vary in size, the tallest being between three and four feet high, and were described by a writer in 1900 as being 'of the bulk of a wheelbarrow', a striking if not very accurate unit of measurement.

Ninety feet to the east lies a confused group of eight stones which may possibly have had some connexion with the circle.

*Map of Neolithic Wessex*, no. 184. (In the earliest edition of this map this circle was given the co-ordinates of the Breamore Wood Long Barrow, the details of Rempstone being assigned to the Holdenhurst Long Barrow, the co-ordinates of which were given to Breamore).

## DESTROYED SITES

### I. LITTLE MAYNE STONE CIRCLE

Omitted from the Neolithic Wessex Map, this circle, of which no recognizable remains exist today, is known to us through Warne, and two earlier writers whom he quotes. It apparently stood by the Dorchester-Wareham road, four miles from Dorchester, where today only a few scattered sarsens mark the site.



## STONE AND EARTH CIRCLES IN DORSET

Roger Gale visited the site in 1728, but in his note upon it there is some confusion about the name (which he gives as Friar's Mayne), and



FIG. 7

its distance from Dorchester. Warne however identified the site with that at Little Mayne. Gale records that there was 'a circle of stone lately broke to pieces by the owner of the land', and in addition he says

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that there were 'two avenues of pitch Stones leading up to it, one from the south, the other from the east'.

In 1847 Little Mayne received the attention of Mr John Sydenham, and was described in his *Baal Durotrigensis*. The fact that he styled it a Dracontium would alone make us cautious, but nevertheless it is difficult to discount his record of 'a complete but small circle . . . composed of ten or eleven stones . . . about thirty feet in diameter'. It seems probable that some at least of the outer circles and avenues that he goes on to describe were more probably seen with the eye of faith alone, and indeed some of the latter may have been stones on early field boundaries.

Warne, in a characteristic outburst of pomposity, tells us that all had been destroyed by 1868, when 'the few lichen-covered stones around me were all that ignorance and destructiveness of men had left of a temple, within whose enclosures, in ages far beyond our ken, their forefathers, perhaps, had been accustomed to worship with a devotion truer than could ever have animated the breasts of those who ruthlessly destroyed such a sacred fane!'

R. GALE. Notes made in April 1728 printed in *Letters and Diaries of William Stukeley*, Surtees Soc. 1883, II, 127.

J. SYDENHAM, *Baal Durotrigensis* (1847).

C. WARNE, *Ancient Dorset* (1872), 121.

*Proc. Dorset Field Club* (1909), xxx, xlv.

### 2. CIRCLE NEAR THE NINE STONES

Aubrey records the existence of a now destroyed stone circle of which three stones remained in his day, which lay about half a mile to the west of the Nine Stones, and appeared to have been of similar dimensions (PLATE I).

J. AUBREY, *Monumenta Britannica*, f. 35.

### 3. CIRCLE NEAR LULWORTH

Between East Lulworth and Povington a possible stone circle is recorded as having existed until the XIX cent. (Not on map, fig. 1).

C. WARNE, *Ancient Dorset*, 136.

## OMITTED SITES

Two sites have been omitted which have in the past been claimed as stone circles. Of these, that above Pokeswell seems undoubtedly to be a stone ring within a barrow, of a type mentioned in the Introduction.





# EARTH CIRCLE ON EGGARDON HILL

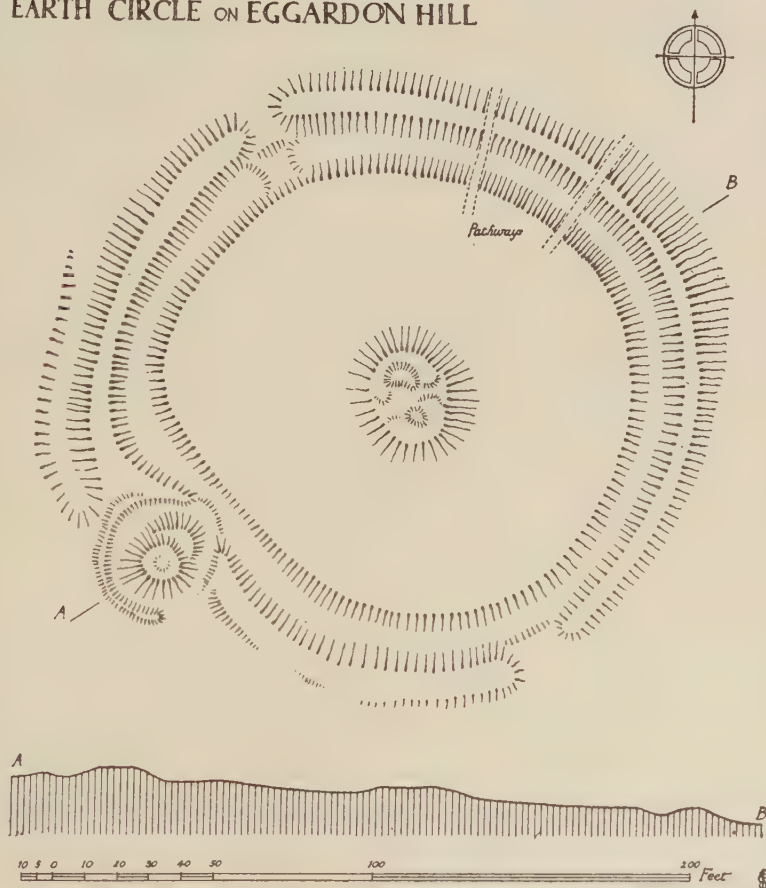


FIG. 8

## ANTIQUITY

The second site is that in the Valley of the Stones above Portesham. This is a most interesting, roughly D-shaped enclosure made of small closely-set stones, and it seems likely that it is to be associated with the surrounding lynchet system, and to have been a cattle enclosure of Iron Age or later date.

*Proc. Dorset Field Club* (1908), xxix, pp. lxxviii and 250.

### Earth Circles

#### THE EGGARDON CIRCLE (FIG. 8)

This earth circle lies at a height of 800 feet just to the east of the Eggardon hill-fort, on a commanding ridge of downland west of Dorchester. Although marked on the Ordnance Map (6 in. Dorset, xxxix NW), it has in the past usually been regarded as a large disc-barrow, although its exceptional character was realized by Colley March. It consists of a roughly circular ditch with external bank enclosing an area some 150 feet in diameter, the bank rising in places five feet above the bottom of the ditch. On the northwest and southeast are breaks in rampart and ditch which may constitute original entrances. Near the centre of this earthwork is a round barrow, while another appears to overlie the bank on the west. It seems probable that the first of these is an integral part of the monument, while the other is probably secondary, although it must be noted that the bank and ditch are flattened in its neighbourhood as if to avoid it. Excavation of this site should produce a satisfactory sequence of construction.

The exceptional nature of the site precludes its inclusion in the normal disc-barrow series, and comparison should rather be made with the Knowlton barrow or the Ysgeifiog Circle in Flintshire.

*Proc. Dorset Field Club* (1908), xxix, lxxv.

#### KNOWLTON RINGS (FIG. 9 and PLATE II).

In northeast Dorset, apparently just outside the ancient bounds of Cranborne Chase, is a remarkable group of earth circles on chalk upland near the Allen brook. The circles are today in a bad state of preservation: four are wholly or partly under plough and one is further defaced by farm buildings, while the most perfect circle has a now-ruined church and churchyard within it. Other features of the group are only visible from the air under favourable conditions of crop.

As can be seen from the plan, the group consists of three main circles, the Northern, Central and Southern; an earthwork known as





# PLATE II



OBLIQUE AIR-VIEW OF THE KNOWLTON CIRCLES FROM THE EAST, SHOWING THE DITCH ROUND THE LARGE BARROW (see p. 152)

*Crown copyright reserved*



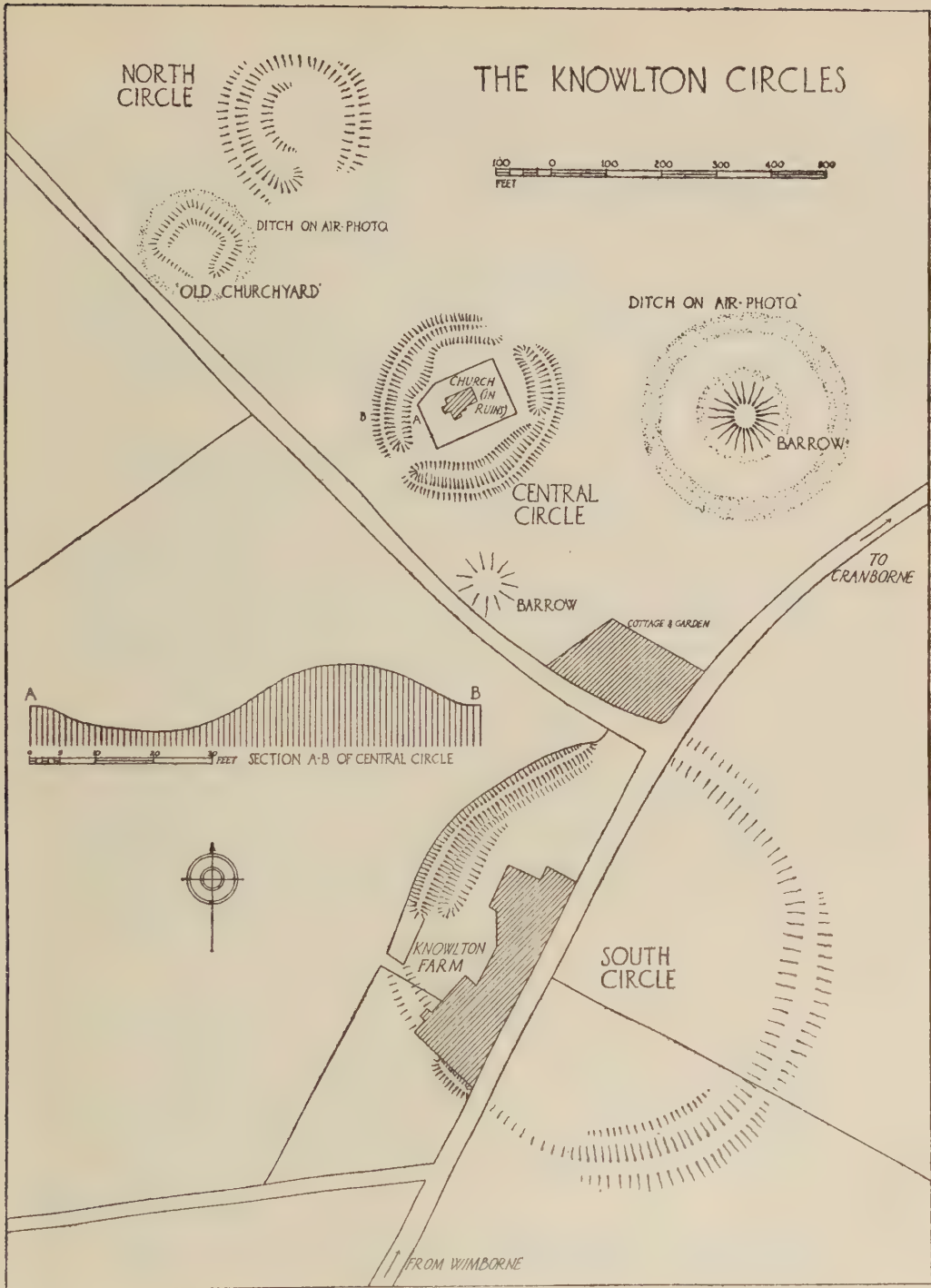


FIG. 9

## ANTIQUITY

the Old Churchyard ; and a large barrow within a great encircling ditch. It will be convenient to describe them in this order. The air-view is reproduced by permission of the Controller of H.M. Stationery Office and the Director General of the Ordnance Survey.

### NORTHERN CIRCLE

This is now badly ploughed down and its original features obscure. A ditch with external bank appears to have enclosed a slightly oval area some 200 feet by 225 feet from crest to crest of the bank, and today a single entrance only can be traced on the southeast.

### CENTRAL CIRCLE

This is grass-grown, and in the best state of preservation of any of the group. An irregular ditch with external bank encloses a circular area some 300 feet in diameter from crest to crest ; it is difficult to be sure whether the entrances to the southwest and northeast are original. The internal area is occupied by the churchyard and the ruined church, which has architectural features from the twelfth to the sixteenth centuries. As can be seen from the section, the bank rises to a height of nearly 10 feet above the bottom of the ditch.

### SOUTHERN CIRCLE

This, the largest of the series, is cut through by the Wimborne-Cranborne road and its western part is built over. The best preserved part of the ditch and external bank is in a small plantation behind the farm buildings, where a distinct berm is visible between the bank and the ditch. To the east of the road the earthwork is under plough and barely visible. There is no definite trace of an entrance, while the diameter averages 750 feet.

### THE OLD CHURCHYARD

This earthwork has previously been claimed as another circle, but on the ground it has a markedly angular outline and from the air an *external* ditch (less angular in plan) is visible. The local name of 'The Old Churchyard' suggests comparison with the rectangular enclosures in the New Forest with similar names—*e.g.* Churchyard, Sloden ; Church Place, Denny Wait ; and Church Place, Ashurst<sup>10</sup>—and connexion with legend of the many churches of Knowlton recorded by Warne.

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<sup>10</sup> Heywood Sumner, *Earthworks of the New Forest*.



## STONE AND EARTH CIRCLES IN DORSET

### GREAT BARROW

This large tree-covered barrow, 20 feet in vertical height and 125 feet in diameter, is seen from the air to be surrounded not only by its own quarry-ditch but by a large encircling ditch 110 feet from the edge of the mound. A slight hollow marking this outer ditch, which has a diameter of 325 feet, was visible on the ground when the writers examined the site in 1936. The whole structure compares well with the Eggardon Earth Circle.

A small ploughed-down barrow is shown on the plan between the Central and Southern Circles: several others exist in the immediate vicinity of the circles today, while air-photographs hint at many others now completely ploughed away.

*Map of Neolithic Wessex*, no. 167, with full references.

### MAUMBURY RINGS (FIG. 10)

The earthworks of Maumbury Rings lie on the level ground on the southern outskirts of the town of Dorchester, forming a conspicuous object from the Weymouth road. The subsoil is chalk and the site is now grass-grown and a public resort.

First noticed by Sir Christopher Wren on his journeys to Portland when obtaining stone for building St. Paul's, it was a little later described by William Stukeley as a Roman amphitheatre. Between 1908 and 1913 excavations were carried out on the site by Mr H. St. George Gray, and it was then found that with the exception of a Civil War gun emplacement to the southwest, the monument as it stands today is essentially a prehistoric work which was adapted by the Romans for the purposes of an amphitheatre.

No definitive publication of Mr Gray's work has yet appeared, and the following summary of the prehistoric features revealed is based on his five interim reports. The plan has been adapted from his small-scale sketch-plan.

The cuttings into the bank showed it to be of uniform construction and a single-period work, with a vertical height of 15 feet above its old turf-line. No Roman objects were found in the make-up; antler picks and a piece of chalk carved into a cylindrical form being the only finds. It was found that the Roman adaptation of the site had involved the levelling of the internal area in such a way that no less than 11.75 feet of solid chalk and top-soil had been removed, thus effectually destroying any original features such as the sockets for possible standing

## ANTIQUITY

stones or posts. Furthermore, this levelling had resulted in the internal quarry-ditch for the rampart being represented today by its lower part only. This ditch, invisible on the ground before excavation, had been dug in a most remarkable manner, consisting in effect of a number of

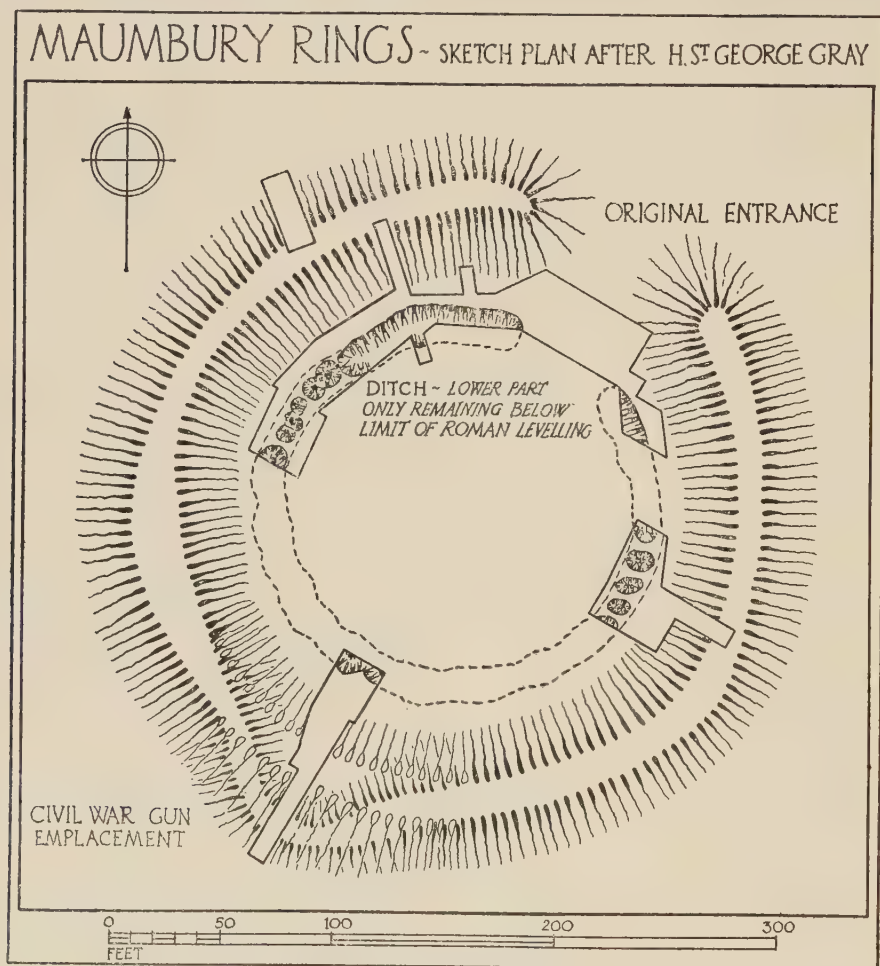


FIG. 10

very deep funnel-shaped pits arranged in a contiguous series, in such a manner that their mouths must originally (before the Roman levelling) have coalesced to form a continuous, if irregular ditch. Seven of these pits were excavated to the bottom, their average depth beneath the original

## STONE AND EARTH CIRCLES IN DORSET

(pre-Roman) level being estimated at 35 feet. This extraordinary method of quarrying for rampart-material seems to be without parallel.

This ditch, and the exterior bank, were found to have enclosed a circular area 280 feet in diameter from crest to crest of the bank, with a single original entrance to the northeast. At one point it was seen that the ditch had cut through an earlier feature in the form of a circular hole 2.2 feet in diameter, which may have been a posthole, but otherwise no features of prehistoric date survived except the bank and ditch.

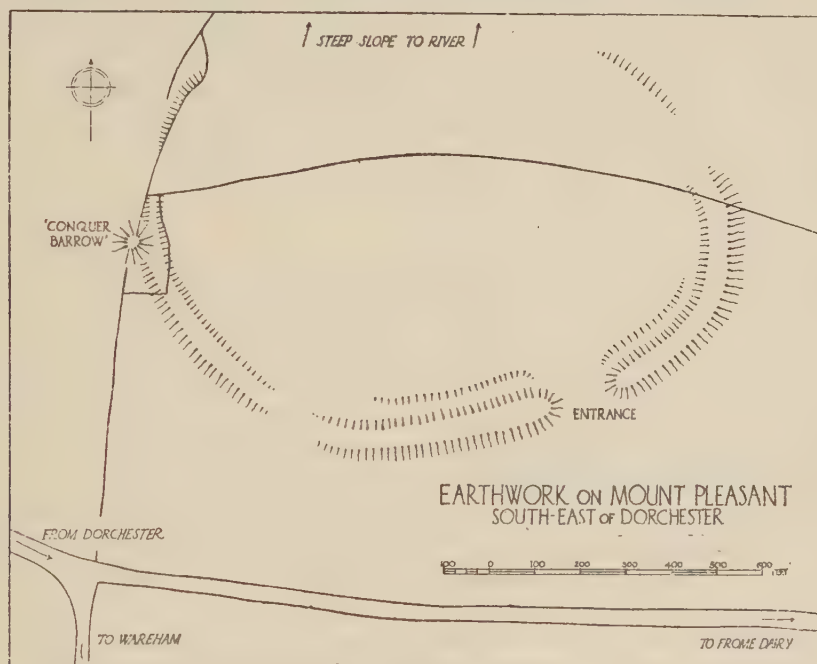


FIG. II

It is clear that these formed a monument of the Woodhenge-Arminghall class, but it is now impossible to know whether stones or wooden posts stood within the area. A single stone of some size appears to have existed on the western side of the entrance until 1846, when it was buried below the reach of ploughing, but neither an excavation of 1879 nor those of 1908-13 revealed any signs of this.

The finds from the ditch were scanty, being mainly in the form of antler-picks, but there were also flints of characteristic Early Bronze Age facies and a sherd of cordoned pottery allied to the Groove-Ware



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series. Carved chalk objects included cups, scratched blocks and fragments of large phallic representations recalling those from Neolithic sites.

In addition to the Roman adaptation of the site, it further suffered from being used as a Parliamentary fort in the Civil War, when the internal terraces and the gun emplacement opposite the entrance were constructed.

W. STUKELEY, *Itinerarium Curiosum*, I, 163-175. The same account was printed separately in 1723 for the members of the masonic lodge at the Fountain Tavern in the Strand; reproduced in facsimile by the Quatuor Coronati Lodge in 1925 with introduction by E.H.D.

H. ST. G. GRAY, *Interim Reports in Proc. Dorset Field Club*, XXIX, 269-272; XXX, 233; XXXI, 260; XXXIV, 100; XXXV, 110.

S. PIGGOTT, *Proc. Prehist. Soc.* II, 200 (for the pottery).

### MOUNT PLEASANT (FIG. II)

On the chalk ridge south of the river Frome and to the east of Dorchester is a much ploughed-down earthwork encircling a low hill known as Mount Pleasant. This earthwork has apparently been of formidable proportions, enclosing an oval area of 1200 feet by 900 feet. It appears to have the ditch inside the bank, and there is an original entrance to the southeast.

The internal ditch suggests a non-defensive structure of the 'Henge' class, and this suggestion is strengthened by the fact that on the west a large round barrow, known as Conquer Barrow, which has not itself been ploughed, stands actually upon the denuded rampart, implying that the earthwork is of earlier date. The barrow has been dug into and no record remains of any finds that may have been made, but it is presumably of the Bronze Age.

These facts, taken in conjunction, justify the inclusion of the Mount Pleasant site as a possible Early Bronze Age monument of the type represented in Wessex by the second period at Avebury or Durrington Walls; the southeasterly entrance suggesting, for reasons given in the Introduction of this paper, the original existence of another to the northwest, thus distinguishing it from the allied single-entrance monuments of which Maumbury Rings is typical. Excavation alone can prove or disprove these very tentative suggestions.

C. WARNE, *Ancient Dorset*, 242 - 'vestiges of a large rectangular entrenchment, which I hold to have been Vespasian's Camp'. Mr Crawford first drew attention to its peculiar relation to the round barrow.

# A Mesopotamian Trilogy

by M. E. L. MALLOWAN

1. LA CIVILISATION D'ASSUR ET DE BABYLONE. By Dr G. Contenau, Conservateur des Antiquités Orientales au Musée du Louvre. Paris : Payot, 1937. 30 *francs*.
2. FOUILLES DE TELLOH : sous la direction de H. de Genouillac. Vol. II, Époques d'Ur III<sup>e</sup> Dynastie et de Larsa. Paris : Paul Geuthner, 1937. Vols. I and II. 400 *francs*.
3. THE MUSIC OF THE SUMERIANS. By F. W. Galpin. Cambridge University Press, 1937. 18s.

THESE three works, all published in the same year, form a trilogy with the Tigris and Euphrates as a background. The Land of the Two Rivers, as historians have aptly called it, was from the beginning of the fourth millennium B.C. a focus on which man converged from the cardinal points of western Asia. The earliest settlements were composed of farmers and hunters : in the south their pottery and the art of painting suggest that they were predominantly Iranian ; in the north their arts show that they were in closer touch with the Syrian hinterland and eastern Anatolia. Sometime before 3000 B.C. the invention of the wheel, of metal-working and writing produced an industrial revolution, which brought the young civilization of these early farmers to maturity. The beautiful painted pottery of Al ' Ubaid and Tall Halaf died out, partly because, as de Genouillac says, the invention of cuneiform writing made the pictorial writing of clay vases obsolete, and no doubt caused the skilful artisans of painted ceramic to apply themselves to the more paying craft of metallurgy, much as in western Europe in the first quarter of this century a horde of stable hands left the paddock for the garage and forsook the horse for the motor car.

Metallurgy brought with it a far greater efficiency in the weapons of war : the training of well equipped armies enabled the best organized cities to obtain greater stability and make enduring conquests. The growth of strong cities inevitably opened the way to Empires, and enabled the Akkadian dynasty of the 25th century B.C. to extend their

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frontiers to the Mediterranean coast, Anatolia and Iran. The greater security of trade routes facilitated the rapid spread of ideas and inventions. Further, the exploitation of metals, which led to constant improvements in furnaces, transformed mud-brick into burnt-brick and induced the full development of architecture. An unparalleled expansion in trade, bringing with it universal economic prosperity and increase in population, required larger and more permanent buildings ; the adornment of temples ennobled sculpture and produced the masterpieces of Gudea in the 24th century B.C. The wheel, which induced both the mass production of pottery and a greater mobility of transport, extended the limits of trade. Finally, the development of writing laid the foundations of science, and in Ashurbanipal's library, the equivalent of that of the Ptolemies at Alexandria, we have in the 7th century B.C. the accumulated lore of western Asia. History, astrology, astronomy, chemistry, medicine, mathematics, geography and language, as we have them in the twenty five thousand tablets from the Kuyunjik collection of Nineveh, the result of nearly 3000 years of careful scholarship, laid the foundations without which Greek science could never have developed as it did and without which mankind today would be at a very different stage in human progress.

Who were the peoples responsible for this dawn of civilization ? Dr Contenau has given us a sound and clear resumé of the question. If we turn to the monuments we find that from the very beginning there were two distinct racial types in Mesopotamia. On the one hand there were the Sumerians with their round heads and low receding foreheads, brachy- or mesocephalic in type with a prominent nose rather like an eagle's beak ; on the archaic statues (early 3rd millennium B.C.), the hair was worn long and divided into two tresses falling on to the front of the shoulders and there was a long, square and carefully trimmed beard. Later on this type was often represented as clean shaven. On the other hand there were the Semitic Akkadians, less frequently represented. The profile was less accentuated, the nose straight or slightly aquiline, and as far as one can judge the head was no longer globular—but the shape was usually concealed by hair. Thirdly, Dr Contenau believes that we can trace an autochthonous Asianic type, linguistically allied to the Sumerians, certainly not Semites and probably not Indo-Europeans. The stone heads recently discovered at Brak (before 3000 B.C.) may perhaps belong to this third category, for they are neither Sumerian nor Akkadian in appearance.

When we come down to the first millennium B.C., nearly 1500



## A MESOPOTAMIAN TRILOGY

years later, we find the Assyrian type which Dr Contenau describes as the 'Israelite classique', in many respects similar to the Armenian whose territory the Assyrians in part occupied. An archaic statue found at Bismaya is suggested as the forerunner of this type.

But the difficulty is that although the linguistic evidence accords with that of the monuments in differentiating three groups of peoples, we have a discrepancy between this testimony and that of the craniological evidence, which shows that in the third millennium B.C. the brachycephalic heads of the monuments were a great rarity, the skulls from the Royal Cemetery of Ur for example being predominantly dolichocephalic or modern Arab in type. It is impossible therefore satisfactorily to account for these discrepancies, but it leads to the conclusion, I think, that we must be wary of attempting to argue racial characteristics from the archaic monuments of the early third millennium B.C. We have to remember that portrait-sculpture developed relatively late in Sumer, for we can point to very few heads that strike us as individual rather than types, till we come to the magnificent bronze head of the 25th century B.C. discovered at Nineveh, and presumed by some to be a portrait of Sargon of Akkad himself<sup>1</sup> (PLATE I). At most we can say that the Sumerians represented themselves as a very different type from the Semitic Akkadians and the later Assyrians, but their sculpture was bound by severe canons, and the result is that we have an impression rather than a photographic likeness of the type.

When we turn to the archaeological evidence it is no less difficult to determine at what precise period the Sumerians themselves entered the field. In the early stages Dr Contenau diagnoses four precise lines of demarcation in the successive phases of civilization between Tigris and Euphrates, as follows :

(1) THE AL 'UBAID PERIOD. Characterized by a hand-made painted pottery with dark on light designs, mostly geometric. This pottery persisted in degenerate form in regions where the later Uruk and Jamdat Nasr ware did not appear, *e.g.* Susa II and Giyan IV.

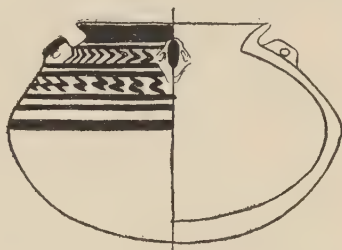
Dr Contenau distinguishes two manifestations of the Al 'Ubaid phase : (a) the Al 'Ubaid pottery which is predominant in the southern alluvial country ; (b) the Tall-Halaf-Arpachiyah pottery which is predominant in Assyria (PLATE II A, B). But I think that the differences between these two classes of pottery have now proved to be fundamental and that we ought no longer to group them under a single heading.

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<sup>1</sup> M. E. L. Mallowan, 'The Bronze Head of the Akkadian Period from Nineveh', *Iraq*, 1936, III, part 1. (See note on p. 170 of this article).

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There is indeed some evidence to suggest that certain wares of Al 'Ubaid type may have owed their development to a contact with a late phase of T. Halaf-Arpachiyah pottery—discoveries at Tepe Gawra and in the Balikh valley lend colour to this view. Moreover, it is becoming increasingly apparent that between Tigris and Euphrates T. Halaf-Arpachiyah ware must be ascribed to an older civilization, the marks of which are to be found as far afield as Ras Shamra on the Mediterranean coast, Cilicia in southwest Asia Minor and in Van. What is more, we now know that behind T. Halaf and the early chalcolithic painted pottery of Nineveh there is a yet older monochrome ceramic which must belong to an earlier phase still. In short the prehistoric Assyrian or rather Subaraean ware of T. Halaf must be



AL 'UBAID WARE FROM ARPACHIAH

sharply distinguished from its Iranian cousin of Al 'Ubaid and we must recognize that it began earlier in time.

(2) THE URUK PERIOD. Characterized by a metalliform red slip-ware, gradual abandonment of painted pottery and the beginnings of wheel-made pottery. The period is notable for the construction of monumental stone and mud brick temples, the use of mosaic columns and the beginnings of sculpture. The older forms of stamp seal gradually give way to the cylinder seal. Writing is invented, in the form of a pictographic script developing into a cuneiform. The period probably covered several centuries and provides us with the first synchronisms with predynastic Egypt (PLATE II D).

(3) THE JAMDAT NASR PERIOD. Characterized by a wheel-made polychrome pottery, often trichrome, which in Sumer is a last attempt at reviving a painted pottery. This ceramic is less common and less dispersed than that of previous periods. Outside Sumer it occurs in Iran at Susa and Tepe Moussian; its latest development is the scarlet ware of the Diyala region in upper Mesopotamia. Otherwise,

## A MESOPOTAMIAN TRILOGY

the Jamdat Nasr is merely a development of the Uruk phase ; writing develops into a fully fledged cuneiform and becomes common together with an increasing use of metal. There are synchronisms with Egypt at the beginning of the Thinite period (PLATE II C).

(4) THE EARLY DYNASTIC PERIOD. Characterized by a climax of development in architecture, sculpture and metallurgy and by the discovery of monuments which may now be attributed to historic names mentioned in the early king-lists. This period begins after 2900 B.C.

The problem which we must now face is at which of these periods the Sumerians made their entry. Dr Frankfort, tracing back the origins of architecture and the handicrafts, and finding a common ancestry in the Al 'Ubaid period, insists that the Sumerians were there from the beginning,<sup>2</sup> whereas Dr Jordan believes them to be the originators of the monumental civilization of Uruk. Others would place their arrival as late as the Early Dynastic period, but the epigraphic and monumental evidence from Uruk puts this theory out of court. Dr Contenau argues against Dr Frankfort that, inasmuch as the Sumerians in their full development exterminated painted pottery, it is difficult to attribute to them the civilization of Al 'Ubaid, a civilization which has painted pottery as its hall-mark. Dr Contenau therefore agrees with Dr Jordan that the Sumerians first entered Mesopotamia in the Uruk period when the constitution of Sumerian art was first clearly defined and writing made its first appearance.

As the Al 'Ubaid peoples must remain inarticulate owing to the absence of writing, the matter is one that admits of speculation rather than proof. It seems to me possible that the truth lies between the two hypotheses—that the Sumerians were in fact present from the very beginning in Mesopotamia, together with other ethnic groups, and that they arrived in waves. As others have argued, they were a vigorous people, probably of mountain origin, and by the Uruk period they felt themselves sufficiently strong to sweep away the older forms of civilization which their forefathers had found in the land. The sudden outburst of invention in the Uruk period may be the product of a young people with an inherent capacity for development, hitherto prevented from maturing owing to the lack of a suitable environment. Once settled in the plains they soon obtained the upper hand over the autochthonous elements and developed a new civilization still linked

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<sup>2</sup> H. Frankfort, *Archaeology and the Sumerian Problem*. The Oriental Institute of the University of Chicago Studies in Ancient Oriental Civilization, no. 4.



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to the old by geographical and hereditary ties, yet firmly stamped with the new die.

But in point of fact this problem of origins is shrouded in the mists of obscurity. For in general man evolves by leaps and bounds, and invention is so sudden that we can no longer recognize the primitive stage from which it emerged. Just as, for example, we shall never discover the origin of the brilliant painted wares of T. Halaf, for the very good reason that a technical trick of washing and firing a specially selected clay enabled the potter suddenly to produce a ware which had the consistency of a China clay, with no more resemblance to the earlier wares than a ship has to a tree, so we shall probably never recognize the forefathers of the Sumerians even if eventually we discover them in some far distant Oriental mountain home.

As to the origin of the Semitic-speaking peoples there is an even greater obscurity. Up to date there is no evidence whatever to show that they came from Arabia or that there is any analogy between the spread of prehistoric Semitism and that of Islam. On the contrary, Syria would seem to be one of the earliest cradles. Incidentally we may note that Syria may be the background from which the Semitic element in the ancient Egyptian language was derived, and that it must have been Syria that served as a base for transmitting the innovations of Uruk and Jamdat Nasr to predynastic and early dynastic Egypt.

But it is a mistake to suppose that we can neatly separate the Sumerian from the Semitic elements in the beginnings of Mesopotamian civilization. As far as we can go back Sumerian and Semitic characteristics and inventions were inextricably intermingled; and from before the third millennium B.C. Sumerians and Semites must have been living together in the same cities in a national unity, much as today the Kurds are completely identified with Islam and often intermarried with the Semitic-speaking Arab.

Yet when the Semitic-speaking peoples first emerge as decisive masters of Mesopotamia under the First Dynasty of Babylon in the 19th century B.C., we may perhaps more easily contrast as specifically Sumerian certain elements which had disappeared after the age of Gudea. In particular, it seems likely that the brilliant statuary of that age, notable for the many representations of the king carved in dolerite and other hard stones, represents the fullest development of Sumerian stone carving.<sup>3</sup> These rigid statues in which the human form remains as it

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<sup>3</sup> cf. The Patesi from Lagash in the British Museum, BM.122910 (PLATE III) and the Statues of Gudea in the Louvre.

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were firmly welded to the block which gave it birth, stand as the emblems of the stolid Sumerian genius. Here we have the impression of a virile and disciplined power bound by an age-long canon of tradition, nevertheless inventive and alert. No statuary of the kind ever again happened in Mesopotamia (PLATE III).

With the Sumerian feeling of the Gudea statues I would contrast the supple and lithe brilliance of the Akkadian statuary as seen in the Stele of the Vultures, wherein the Semitic genius seeks release from the more cramped and stolid forms of Sumer. Likewise in the Akkadian period on the cylinder seals we see an art in which there is less overcrowding. The field is broadened and emptied of unnecessary encumbrances; we may compare the new art to a man who intends to travel light, and, having shrugged his shoulders and got rid of old burdens starts on a new road, all the fitter for abandoning the heavy trappings to which he has been accustomed.

After 2000 B.C. the Semitic contribution was in fact a sifting and repairing of the encumbrances of the old order. In religion the pantheon was reduced and simplified, a single god, Marduk, imposed his authority over all the lesser deities of Babylonia—it was the first direct impulse towards monotheism. Likewise religious scenes and emblems were considerably changed—the Semitic influence of Syria is seen in the representations of the god Martu and his club. In law the code of Hammurabi modified and improved the older and scattered Sumerian codes; and Dr Contenau notes that often, as in agrarian legislation, the Semitic law had a greater regard for equity, whereas on the contrary it was always inexorable and had less regard for clemency than the older Sumerian law.

An interesting selection of small objects belonging mostly to the last quarter of the third millennium B.C., the period at which the Sumerians were at their swan song before the oncoming of the vigorous new dynasty of Semitic Babylon, may be seen in the Abbé de Genouillac's second volume on Telloh, the ancient Lagash, a term which properly speaking refers to the country, whereas the town was called Girsu by the Sumerians.

De Genouillac has with great labour recorded his share in the excavations and illustrated them by a large number of plates; they recall a work, which beginning with de Sarzec in 1877, has been a rich field for French archaeological research. But one is bound to make a serious criticism of this last contribution because the context of the

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discoveries has hardly ever been described, an omission which robs the work of the evidential value which it ought to have. De Genouillac's scholarship has enabled him to attribute the greater part of the finds to their proper periods and he has much interesting and illuminating comment. But I would suggest (a) a further short appendix in which the actual find-place of the objects be described and (b) that wherever possible the material be related to comparable finds from other sites. A short account of this kind would tremendously enhance the value of the work and incidentally would remove the misleading impression produced by pictures of objects which do not belong to this period at all.

Lagash, which lay about 50 miles northeast of Ur, was reckoned to be one of the principal cities of Mesopotamia, and enjoyed two special periods of prosperity during the first and last quarters of the third millennium B.C. The town was enclosed by a sacred wall and the different quarters linked by well-paved streets; many of the buildings were situated on the quays of canals. Between 3000 and 2000 B.C. we have records of at least 80 temples in the city and not less than 15 gods. Gudea, in the 24th century B.C., boasted of being shepherd of a flock consisting of 60 *sar* of men, or 216,000 souls; no doubt this figure does not underestimate the number of his dependents. Gudea perpetuated the worship of Nin-Girsu daughter of Anu, patron saint of the city. One of the best preserved temples was that of Nanše, dispenser of laws, for whom four months in the Sumerian calendar were set aside. De Genouillac suggests that the many infant pot-burials under the floor of this temple were holocausts of new born children. If that is true it is surprising that we have no record of such a practice in contemporary cuneiform texts. The same problem also arises on other Mesopotamian sites such as Ur, where the chapels attached to private houses of the 19th century B.C. frequently contained pot-burials with the bodies of infants.<sup>4</sup> It seems to me that the theory of holocausts is not proven and that these pot-burials with many bodies are rather to be accounted for by a high infant mortality which gave rise to the adoption of child cemeteries, for in fact infants are rarely if ever found in the family vaults which lie beneath the floor of every house at that period. So

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<sup>4</sup> *Antiquaries Journal*, VII, no. 4. Note the suggestion by Sir Leonard Woolley who denies the theory of infanticide, and that the infant burials in the Ur houses were consecrated to a particular patroness of little children. One of the Ur houses contained the bodies of 32 infants.



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far as we know infant sacrifice is a Semitic practice attested at Gezer and in the Punic city of Carthage,<sup>5</sup> but not in Mesopotamia.

Another important architectural find was a princely hypogeum containing four tombs, close to the temple of Nanše. De Genouillac began the excavation of this very important building and the work was brought to its full fruition by M. A. Parrot, who discovered in two of the vaults some magnificent material consisting of seals and inscriptions of Ur Ningirsu and Ug-me, son and grandson of Gudea. This mausoleum of the Patesis must be compared with the Royal tombs of Shulgi and Bur Sin discovered by Sir Leonard Woolley at Ur.<sup>6</sup>

Among the many interesting objects found by de Genouillac we may call attention to the terracotta head shown on PLATE IV B, briefly referred to on page 66 of the text. The interest of this figure is that the face and mouth and more especially the style of hair dressing bear a close resemblance to the celebrated bronze head of Sargon (?) from Nineveh, and likewise therefore to the gold wig of Mes-Kalam-Dug. We must presume that the Telloh head is to be dated not earlier than Gudea: the fact that it has horns suggests that it represents a god. Its discovery strengthens our conviction that the Ninevite head is not earlier in date than the later half of the third millennium B.C. If the author could give us the context of the head from Telloh the information might be of considerable interest.

The frequency of terracotta figurines bearing musical instruments brings us to the subject of Sumerian music, which has been treated for the first time on an adequate scale in a remarkable work by Canon Galpin. This book must surely call for attention on the part of those who profess to be authorities on the history of music,<sup>7</sup> for the Sumerians are shown to have had a series of more than a dozen musical instruments, and Canon Galpin believes that there is some ground for thinking that they had arrived at a system of musical notation, though certain cuneiform scholars, among them Prof. Landsberger, do not agree with this theory.

The earliest specimen of a musical instrument known to Mesopotamia was published after Canon Galpin wrote this book. It is a bone

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<sup>5</sup> G. Contenau, *La Civilisation Phénicienne*. Payot, 1926. pp. 137-140, 'Sacrifices humains'.

<sup>6</sup> *Antiquaries Journal*, XI, no. 4, and for Parrot's description of the mausoleum at Telloh, cf. *RA*, XXIX, p. 45 ff.

<sup>7</sup> C. V. Stanford and C. Forsyth, *A History of Music*. Macmillan, 1937. On p. 19 Mr Forsyth describes the interest of Babylonian music as merely antiquarian.

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flute of which six stops are still extant, belonging to the end of the Al 'Ubaid period ; the next earliest instrument is a bone pipe with two stops, divided into two tubular pairs, decorated on the back with incised ornament, apparently about  $10\frac{1}{2}$  cms. long : both instruments were discovered by Dr E. A. Speiser at Tepe Gawra,<sup>8</sup> a site not far from Nineveh in Assyria. The pipe was discovered in stratum XI-A and the flute in stratum XII ; both instruments must therefore be dated several centuries before 3000 B.C.

Our records of Sumerian music are primarily liturgical, for music was a necessary accompaniment to most of the Temple services and even the oracle was given to the strains of a cross-strung harp. In the temples the harp was heard by day and by night. Music at funerals would seem to anticipate the modern funeral march, but music was not used only in lamentation. Horn-blowing took place in the fore-court of the temple, filling it with joy ; on a Babylonian plaque there appears to be a representation of a boxing match in which the pugilists are spurred on by the sound of kettledrum and cymbals. A curious predilection of the Sumerians for representing animals as players in an orchestra must refer either to a fable, or it may be explained by supposing that animal spirits were assuaged by music. A catalogue of some musical library made in the 9th or 8th century B.C. comprises ' liturgies, royal psalms, festal songs and hymns of lamentation : there are poems of victory and heroism, folk-songs for craftsmen and shepherds, musical recitations and a long list of love-songs for both sexes '. It appears that women of various Akkadian towns were in the third millennium B.C. called upon to mourn their fate under the Gutian oppressors in an anti-phonal lament. King Gudea of Lagash speaks of the appointment of a chief musician for his Lagash temple, no doubt a post of considerable importance.

The variety of instruments quoted by Canon Galpin to correspond with the cuneiform names, or as depicted on monuments, plaques and cylinder seals, includes drums, the sistrum, rattle and bell, flutes, whistles, reed pipes, trumpets, horns, the bow-shaped harp, the lyre, the two-stringed lute and the psaltery.

It is probable that many of the tubular vases commonly described as offering-tables are really drums. Many of these were discovered in the Royal Cemetery of Ur : a terracotta drum given me by my friend Prof. Schaeffer and bought by him in the bazaar at Aleppo is an exact

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<sup>8</sup> BASOR, no. 64, Dec. 1936, fig. 5, and no. 65, Feb. 1937, p.8.

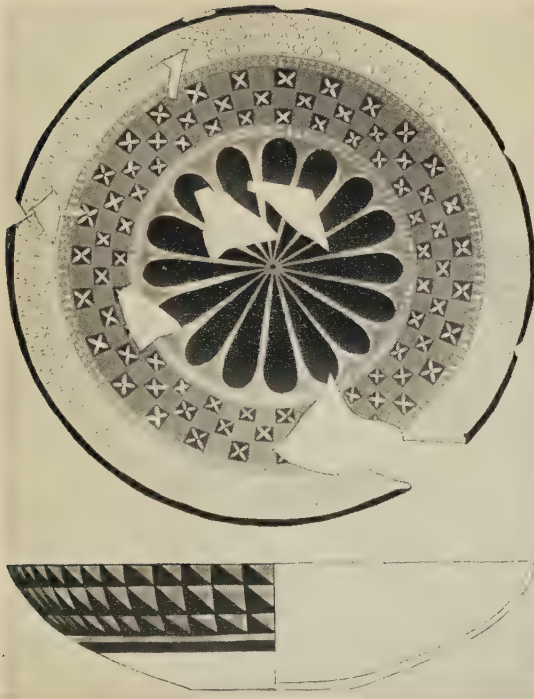
PLATE I



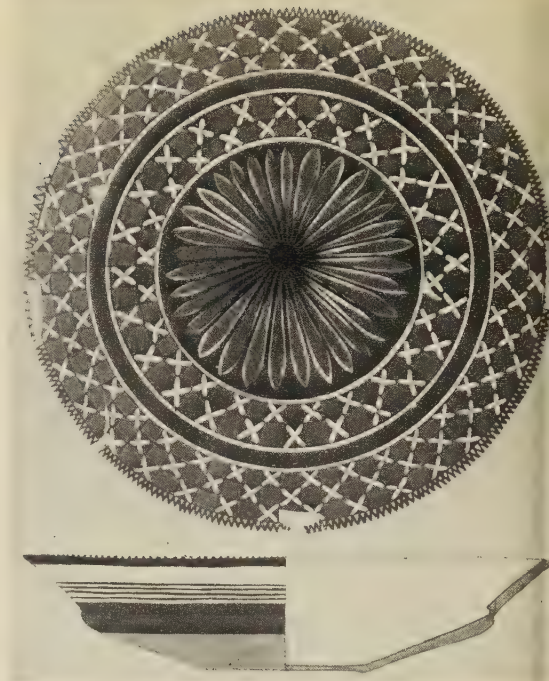
BRONZE HEAD OF SARGON OF AKKAD (?) FROM NINEVEH, 25TH CENT. B.C. (see p. 161)

*By courtesy of the British School of Archaeology in Iraq*





A



B

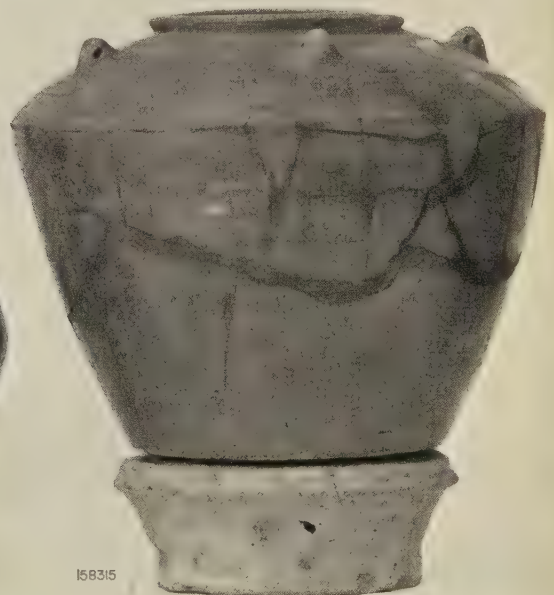
A B. TALL HALAF WARE, FROM ARPACHIVAH (see p. 161)



158314

C

C. TRICHROME VASE OF THE JAMDAT NASR PERIOD  
(see p. 162)



158315

D

D. RED SLIP WARE VASE OF THE URUK PERIOD  
(see p. 162)

C-D. By courtesy of the Field Museum of Natural History, Chicago



DOLERITE PATESI FROM LAGASH (see p. 164)

*By courtesy of the Trustees of the British Museum*





A



B

B. TERRACOTTA HEAD FROM TELLOH,  
ANCIENT LAGASH (see p. 167)  
*By courtesy of H. de Genouillac and the  
Musée du Louvre*



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modern counterpart of the ancient Sumerian drum. A tablet of the Seleukid period, c.300 B.C., from Uruk, gives instructions for fastening a skin head to a bronze kettledrum in which twelve bronze images of the gods were placed.

The most elaborate instruments were the harps and lyres, the institution of the harp being ascribed to the god Enlil. A psalm in its honour says that 'its head was made of lapis lazuli and its voice, with the deep tones of its strings, sounded like that of a horned bull'. 'Its sound chest (lit. fulness) was in width like a well conditioned farmer; to it hymns of fate were recited; it glittered as the stars; it was holy; by day in the temple it uttered speech, by night it poured forth song'. The context of this poem agrees very well with the extant specimen of a large bow-shaped harp of 2700 B.C., decorated with a gold bull's head from the Royal Cemetery of Ur.

Most interesting of all are the lyres from the Ur cemetery, often highly ornamented and so well constructed that they presuppose a long period of development which must surely go back to the beginning of the third millennium B.C. (PLATE IV A).

One of the most fascinating enquiries in the book stresses the possible relations of Sumerian to ancient Chinese music. For according to a Chinese archaeologist of the 16th century A.D., one of the early Chinese emperors sent his Master of Music westward over the K'unlun Mountains to study the ordering of Western music. This journey, which dates to the period of Chinese mythical history, relates to a pre-historic era as far as the Chinese were concerned; but it reflects a very interesting tradition which links the origins of Chinese music with that of western Asia, and suggests that the Sumerian *Imin-e* or the seven-note corresponds to an original heptatonic or seven-note Chinese scale. The Chinese antiquary referred to above had seen a vertical flute in bronze dating from before the Chou dynasty (c. 1122 B.C.), producing a heptatonic scale, and suggesting a kinship with the Sumerian vertical flute.

In a stimulating chapter on the Racial Element in Music, Canon Galpin claims that 'the lyre in its most primitive form is distinctly a Semitic instrument and was so recognized by the Egyptians themselves'. In contradistinction to the bow-shaped harp which is related to instruments east and northeast of Sumer and probably Sumerian in origin, the lyre 'is a connecting link with districts westward of that country rather than with those on the east, where the lyre type is unknown'. An important appendix on the development and distribution of the bow-shaped harp suggests on the one hand early Sumerian connexions with

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India and Tibet, and on the other hand would account for its presence in Africa as due to Sumerian influence. The presence of the bow-shaped harp in Uganda is noted, together with the late survival of a remarkable burial-cult involving a holocaust of human victims and reminiscent of the sacrifices in the Royal Cemetery of Ur.

The distribution of musical instruments is therefore seen to have an important bearing on those Mesopotamian origins which we discussed at the beginning of our article. I think it is of cardinal importance to stress the bearing which music has on the possibility of an early connexion between China and western Asia, a connexion which is denied by certain scholars on archaeological grounds at so early a period.<sup>9</sup> However that may be, I am convinced that eventually we shall find that from early chalcolithic times onwards there were certain contacts between China and western Asia, a conclusion which I would first argue from the family resemblance between the earliest painted chalcolithic pottery of Kansu and other regions, and that of western Asia.

At the outset of this article I referred to the three works under discussion as a trilogy. Taken as such they emphasize the interdependence of three forms of research which are essential to an understanding of ancient things. Excavation brings forth the material and presents it in a special context; history combines the results of excavation in a co-ordinate whole; special research throws a spot-light on a particular activity which reveals an intimate glimpse of man concentrating his activities in a special channel. After the recent spate of excavation in western Asia we may confidently expect year by year trilogies of this kind, which must shed a new light on the Ancient East and bridge the gaps between East and West—gaps which are today being filled with an astonishing rapidity.

NOTE. The bronze head discovered at Nineveh (see p. 161) illustrated on PLATE I was discovered by Dr R. Campbell Thompson at Quyunjik in 1931 and first published by him in *A.A.A.* XIX. I am indebted to him for his courtesy in allowing me to reproduce it here.

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<sup>9</sup> C. G. Seligman and H. C. Beck, 'Far Eastern Glass: some Western Origins', pp. 31. *Bulletin of the Museum of Far Eastern Antiquities*, Stockholm, 1938.

# Archaeology in Palestine

by KATHLEEN M. KENYON

1. THE STONE AGE OF MOUNT CARMEL ; EXCAVATIONS AT THE WADY-EL-MUGHARA. Vol. 1. By D. A. E. Garrod and D. M. A. Bate. Clarendon Press, 1937. pp. 240, 55 plates, 8 text figures. 42s.

2. LACHISH I : THE LACHISH LETTERS. By Harry Torczyner, Lankester Harding, Alkin Lewis and J. L. Starkey. Published for the Trustees of the late Sir Henry Wellcome by the Oxford University Press, 1938. pp. 221 (including plates, not numbered separately). 25s.

3. THE QUARTERLY OF THE DEPARTMENT OF ANTIQUITIES IN PALESTINE ; VOL. VII, SELA-PETRA, THE ROCK, OF EDOM AND NABATENE. By G. and A. Horsfield. Published for the Government of Palestine by the Oxford University Press, 1938. pp. 42, 74 plates, 10 text-figures. 5s.

4. THE ANNUAL OF THE AMERICAN SCHOOLS OF ORIENTAL RESEARCH : VOL. XV, EXCAVATIONS IN EASTERN PALESTINE II. By Nelson Glueck. pp. 161, 38 plates, 45 text-figures.

5. PRELIMINARY REPORT OF THE UNIVERSITY OF MICHIGAN EXCAVATIONS AT SEPPHORIS, PALESTINE, IN 1931. By Leroy Waterman. University of Michigan Press, 1937. 2 dollars.

THE group of books here under review is so varied in subject, that a connected discussion is difficult. Apart from the importance of the subjects, however, there is a general interest and connexion in the illustrations they give of the comparatively new approach now being made to Palestinian Archaeology. The inevitably preponderant importance to most people of the association of Palestine with Biblical history has had two effects on the study of its archaeology. In the first place, periods outside that of the Bible have not received much attention, and in the second, it has rather often been the case that distinguished Biblical scholars have undertaken excavations without the supplementary training in field-work which modern archaeological technique now requires. Among the books under review are examples of how this tendency has in recent years been corrected. We see Palestine taking its place as an important connecting link between the great lands of the Near East, and we see how modern methods are now applied to all aspects of field archaeology. There is also unfortunately one example of how modern excavations should not be done.



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Chronologically earliest, and possibly also the most important, since touching less-known ground, is the first volume of *The Stone Age of Mount Carmel*. Miss Garrod and Miss Bate are to be heartily congratulated on producing a first-class report on a subject of first-rate importance, and that too at a very reasonable period after the completion of the excavations. It is a striking illustration of the backwardness of Palestine in all but Biblical archaeology that in the Wady-el-Mughara, the Stone Age industries of Palestine have for the first time been found in sequence and not in isolated deposits. Owing to the fortunate fact that there is a secure overlap between two adjacent caves, the Mugharet-el-Wad and the Mugharet-et-Tabun, the Stone Age chronology of the region from the Tayacian, through Acheulean, Levalloiso-Mousterian, Lower and Upper Aurignacian, Atelian to Natufian (the Palestinian Mesolithic), is securely established. As Miss Garrod points out, at El-Khiam, Tahunian immediately follows the latest Natufian, and at Jericho Tahunian is the industry both of the lowest non-pottery bearing levels and of the pottery bearing Neolithic levels which overlie them. It is no small triumph for a country which entered so late upon the prehistoric field to have produced so complete a framework, into which the isolated finds can now easily be fitted. But as Miss Garrod and Miss Bate point out, there is one thing still lacking, the secure fitting of the sequence of industries into the geological and climatological setting. Miss Bate's work on the animal bones of the different layers has established a number of climatic changes, but so far it is not very easy to fit them in with the evidence of the pluvial periods in the Jordan Valley. Work is clearly needed on the beaches of Palestine, by which the geochronological work done by Dr Zeuner and others, which has linked up so much of the Stone Age deposits from North Europe down to the Mediterranean coasts, can be carried round its shores to the Near East.

Many other points of interest are raised, such as the fact that the human connexions of Palestine were undoubtedly with Europe, and very little with Africa, while the animal remains show that the country served equally definitely, as would geographically appear probable, as a bridge by which North Africa received much of its Pleistocene fauna. Further, there is a great change (due to climatic reasons) in fauna to modern conditions, that is not reflected in the human industry, which merely evolves from Lower to Upper Levalloiso-Mousterian. The divergencies between the human and animal histories are rather remarkable. Of further outstanding interest is the cemetery of twelve

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persons of Levallois-Mousterian type outside the Mugharet-es-Skhul. But in a review it is not possible to deal with all this.

It is not at all easy to criticize a work which is so thorough in presentation of evidence, illustration, analysis and comparative work. Both industries and fauna are recorded and illustrated layer by layer and the correlations of both with other Palestinian sites as well as European and African ones are fully worked out. Miss Bate's time-chart of the distribution of species is of particular interest. The drawings both of implements and bones are excellent. The finish of some of the photography on the site could, however, be improved on in matters such as cleaning, removing extraneous objects and positions of scale. A small criticism of the drawing of the skeletons is that their appearance is spoilt by such very heavy and ugly north-signs. But these are small matters in such a first-class work.

The interest and importance of *Lachish I* is of a very different sort from that of the work just considered, but an equally great one. This beautifully produced volume will serve as a permanent memorial to Mr J. L. Starkey, the finder of the Lachish letters with which it is concerned, whose tragic death just preceded its appearance. All archaeologists must deeply regret that a piece of particularly wanton terrorism has deprived them of such an able colleague, and prevented Mr Starkey from carrying to completion the work he so brilliantly began.

The excavations of Tell Duweir have been going on for five years, and the interim reports have indicated the importance of the finds. This first volume of the definitive report is concerned purely with the remarkable collection of eighteen ostraca found in a chamber of the gateway, and it is mainly the work of Professor Harry Torczyner of the Hebrew University of Jerusalem. It will come as a shock to the non-specialist to realize that this is the first collection of original literary documents of the pre-Exodic period which has ever been found. The extensive collection of ostraca from Samaria are concerned with business records, and besides that there is only the Siloam inscription and names on seals and weights. The ostraca consist of a number of letters written on potsherds, and their importance on epigraphic, lexicographic and historical grounds cannot be over-estimated. The presentation of the evidence is admirable. The ostraca are illustrated by photographs and hand copies, and these are accompanied by transliterations, translations, free translations and discussions of the language and meaning.

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The interpretation of the meaning of the letters is naturally the aspect which will interest the archaeologist and historian most. As with all ancient records of this type, considerable ingenuity is necessary in this work, and Professor Torczyner's arguments will not always convince the reader. The ostraca were found in a heavy burnt layer of a guard-room in the gate, which had been rebuilt over another burnt layer. The existence of these two burnt layers, found over a large area of the city, and from the evidence of the contents only separated by quite a short period, Mr Starkey explained by postulating an otherwise unknown destruction by the Babylonians of the city *c.* 597, in addition to the one known from the Biblical narrative in 588. The letters would therefore belong to the period between the two. They do not appear to be archives in the usual sense, for they are all letters from one man, Hosha'yahu, to his superior officer, Ya'ush, and in all he is apparently exculpating himself from a number of accusations. It is suggested that the letters are relics of a court-martial held on this man, immediately before the fall of Lachish. One letter appears to indicate that Azeqah, which appears to be an intermediate station between Lachish and the writer's post, has already fallen and that the writer is asking for signals to be sent direct from Lachish. This is important confirmation, though perhaps not so absolutely unshakeable as the author would suggest, that Tell Duweir is really Lachish, as Mr Starkey so plausibly insisted. But what would appear to be a weak point is the theory that in the final stage of the disaster, it was possible for the commander of the outpost, presumably after it had fallen, to evade the enemy, already masters of the intervening country, get to Lachish, and be tried by court-martial, apparently on counts extending over a considerable number of years. Another letter, III, requires a good deal of forcing to fit into the suggested chronology. It apparently refers to the fate of the Prophet Uriah, described in Jeremiah xxvi, who fled to Egypt, but was brought back and killed. Jeremiah described this as occurring in the reign of Jehoiakim (608-597 B.C.), whereas to fit into the theory propounded for the letters, it must have occurred about 590-588 B.C., in the reign of Zedekiah. This Professor Torczyner explains by saying there must have been a scribe's mistake in copying the relevant passages of Jeremiah, but he has to do some rather elaborate explaining away of certain points, which at times savours somewhat of special pleading.

But, though there are undoubtedly points which will not convince everyone, Professor Torczyner has exhibited much skill in elucidating



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a connected narrative from these letters, which may quite well turn out to be absolutely correct, if for the moment some suggestions must be held to be not proven. In any case, the presentation of all the evidence is admirable, and there is no doubt at all that we have here a most important contribution to the history of the last days of the Judean kingdom.

The remaining works under consideration are of slighter character. The one on Petra, however, is a most interesting survey of that remarkable place. The romance of this desert-capital of the caravan state of Nabatene, carved mainly out of rock in a stately natural amphitheatre, whence the trade of the Near East was controlled in the period immediately before and after the beginning of the Christian era, has tended to hinder a scientific approach to its problems. A thorough examination of the city was of course undertaken by Brunnow and von Domaszewski, but their interpretation was not always sound. Mr and Mrs Horsfield's survey is extremely valuable. The volume under review is only part of the whole, and it is therefore difficult to criticize it, for what appear to be omissions may be remedied in later parts. The first section gives a useful summary of the topography of the place, which should be comprehensible even to those who have not visited the site. The authors suggest that the original acropolis was on Umm el Biyara, with a settlement in the Siyagh at its foot, but it must be confessed that they can only adduce probabilities to support this, and archaeological evidence is badly needed. The second section deals with the houses, which is very welcome, since few earlier writers have realized that though the carved façades belong to tombs, the hundreds of other cavities are really houses from which the masonry fronts have fallen away. The various types of houses are described, and one of them is dated to between 70 and 30 B.C. by the style of wall-painting. This emphasizes the chief need of Petra—the scientific dating of the various structures by archaeological methods, for a survey alone is not enough. Perhaps this is to come in one of the subsequent sections. The survey is illustrated by a great number of photographs of great merit. When most of the work is of such a high standard, it is a pity to include an inferior one such as LXXII 2.

Evidence of the widening of the field of Palestinian Archaeology is given by the 'Annual' of the American Schools of Oriental Studies, for it is concerned with a survey of Edom. This is as it should be, for the isolation of the Jews from their contemporaries simply because of our interest in their religion and literature gives us only an unbalanced

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picture of them. The survey of Petra, just considered, is concerned in the main only with the later Nabatean period of the principal city of the country, and it is important that the earlier part should also be considered. The present survey is only a superficial approach to the problem, and was not presumably intended to be any more. Much undoubtedly can be done by the collection of surface sherds, but two definite reservations must be made. In the first place, a number of test-sites require to be excavated in key positions in order to establish any close classification of pottery, and this is still lacking in most of Southern Transjordan. In the second, such a rapid tour as the one undertaken by the American School cannot hope to be exhaustive, and the evidence of surface finds from most sites tends to emphasize, perhaps exclusively, the latest date of occupation of the site. Both these points may affect the conclusions drawn from the tour, which were that there were periods of intensive occupation from *c.* 2200–1700 and *c.* 1300–800, with a blank between and after. Many Palestinian archaeologists will want proof from excavations that part of the Middle Bronze and Late Bronze periods are in fact not represented in Edom, for which there appears no adequate historical reason.

The work suffers most, however, from its method of presentation, which is that of a journal. Little adequate idea is gained of the general geography of the country and an analytical approach would have enabled a far clearer conception to be gained of the settlements of the different periods. A mass of irrelevant detail is given, notably the hour on which the party set out each day. It is surely of very little interest to read 'March 23rd. We left et Telah at 8.00 a.m., going due west. The area traversed at first was a waste land of grayish earth and sand covered with stones and boulders. At 9.00 a.m. we entered a golden, sandy area, tinged with green, with a very sparse growth of grass and shrubs and small flowers with white blossoms . . . A cool breeze blew during the early part of the morning and the ride was the most pleasant experienced during the entire expedition'. After some 123 pages devoted largely to details such as these, it is rather tantalizing to have the undoubtedly interesting subject of pottery dismissed in 14 pages, with the remark, 'Because of limitations of space, a fuller discussion than is possible here of the pottery collections made by the writer from numerous Early Bronze Age sites in Moab and Edom must be reserved for another occasion'. The pottery is illustrated by drawings, and by photographs, the latter of which would be much improved by not being taken in full sunlight. But though this report does not go very

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deep, it does show what a wide field of investigation lies in southern Transjordan, and it is much to be hoped that the American School will follow it up with a more exhaustive examination.

The remaining work, *Excavations at Sepphoris*, is, unfortunately, an example of how excavations should not be done. It is, it is true, called a preliminary report, and it is possible that omissions will be rectified in a fuller report, but as it is issued six years after the excavations were carried out, it would not appear that we can expect this soon. But one cannot feel great hopes when the excavator states that 'Sepphoris, like all large and important sites that have been extensively built over in the Hellenistic and Romano-Byzantine periods, shows practically no stratification'. This statement shows a reversion to the period when archaeology in Palestine was only evolving. As long ago as 1890, the excavation of sites by stratigraphical methods was started by Sir Flinders Petrie on the brick-built sites of southern Palestine. But the excavation of the stone-built hill-towns of northern Palestine, with the deep-cutting foundations, and still more with extensive stone robbing, was a very different matter. When excavations such as those at Gaza and the first excavations at Samaria were carried out shortly before the War, technical methods had not advanced sufficiently far to disentangle the disturbed from the intact levels. But nowadays there is no reason why a site in Palestine should not produce just as much stratified evidence as one in England or anywhere else. The history of the site, which is first mentioned by Josephus, from literary sources, is well outlined, but it must be confessed that the excavations have added little to our knowledge of it.

But, though this last book is an exception, the other works discussed do show the healthy state of Palestinian Archaeology before the present troubles brought everything to a standstill. The new Rockefeller Museum at Jerusalem encloses collections of great importance for the history of mankind from the earliest periods down to the present day, and scientific excavations with which most of these books are concerned have made it possible for these to be minutely and accurately classified. Both general and Biblical history have gained by the more balanced approach which is now being made to the problems of the country, the almost inexhaustible interest of which is shown by the fact that new discoveries can range over such a wide field as from the earliest Stone Age to the correspondence of a Judean commander besieged by the Babylonian armies.



# The Roman Camp-Site near Castor on the Nene

by CHRISTOPHER HAWKES

IN his Editorial Notes for September 1930, the Editor of *ANTIQUITY* described an exploratory flight over England and Scotland taken by him and Mr H. J. Andrews in June of that year, in the course of which a most remarkable discovery was made.<sup>1</sup> A main objective of the flight was the Roman town of Durobrivae,<sup>2</sup> where the Ermine Street from London to Lincoln and the North crosses the river Nene, now the boundary here between the counties of Huntingdon and Northampton. Extensive, and for their period careful excavations were carried out in this vicinity by E. T. Artis in the twenties of the 19th century, and illustrated in a sumptuous quarto volume of plates<sup>3</sup>; but despite exhaustive summaries of these and all recordable discoveries contributed to the *Victoria County History*, by Haverfield for the Northamptonshire side in 1902,<sup>4</sup> and by Miss M. V. Taylor for the Huntingdonshire side in 1926,<sup>5</sup> no systematic modern work has been attempted on any part of the site, and an air reconnaissance seemed an ideal way of re-introducing it in 1930 to the attention of archaeologists.

The village of Castor, whence comes the modern name of the pottery that was the Roman town's chief industrial product, lies on the north of the river in Northamptonshire, largely, it seems, on the site of what was in later Roman times at all events the central inhabited area of Durobrivae. But what appears to be the primary urban site, traditionally named 'The Castles', is a mile away<sup>6</sup> on the south bank, in the

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<sup>1</sup> *ANTIQUITY*, 1930, IV, 274-5.

<sup>2</sup> For the degree of probability that this name in the Antonine Itinerary is indeed the correct one, see *V.C.H. Northants*, I, 166-7; *V.C.H. Hunts.*, I, 262-3.

<sup>3</sup> E. T. Artis, *Durobrivae* (1828).

<sup>4</sup> *V.C.H. Northants*, I, 166 ff.

<sup>5</sup> *V.C.H. Hunts.*, I, 228 ff. This account includes the results of numerous observations by Mr Wyman Abbot, F.S.A.

<sup>6</sup> Cf. the Roman milestone found by its north gate, giving 1 mile as its distance presumably from what was reckoned the centre of Durobrivae: *C.I.L.* VII, 1156 with *Eph. Ep.* IX, p. 634; *V.C.H. Hunts.*, I, 234-5.

## ROMAN CAMP-SITE NEAR CASTOR ON THE NENE

Huntingdonshire parish of Water Newton. This is an irregular but compact area enclosed by a rampart and ditch, with Ermine Street running

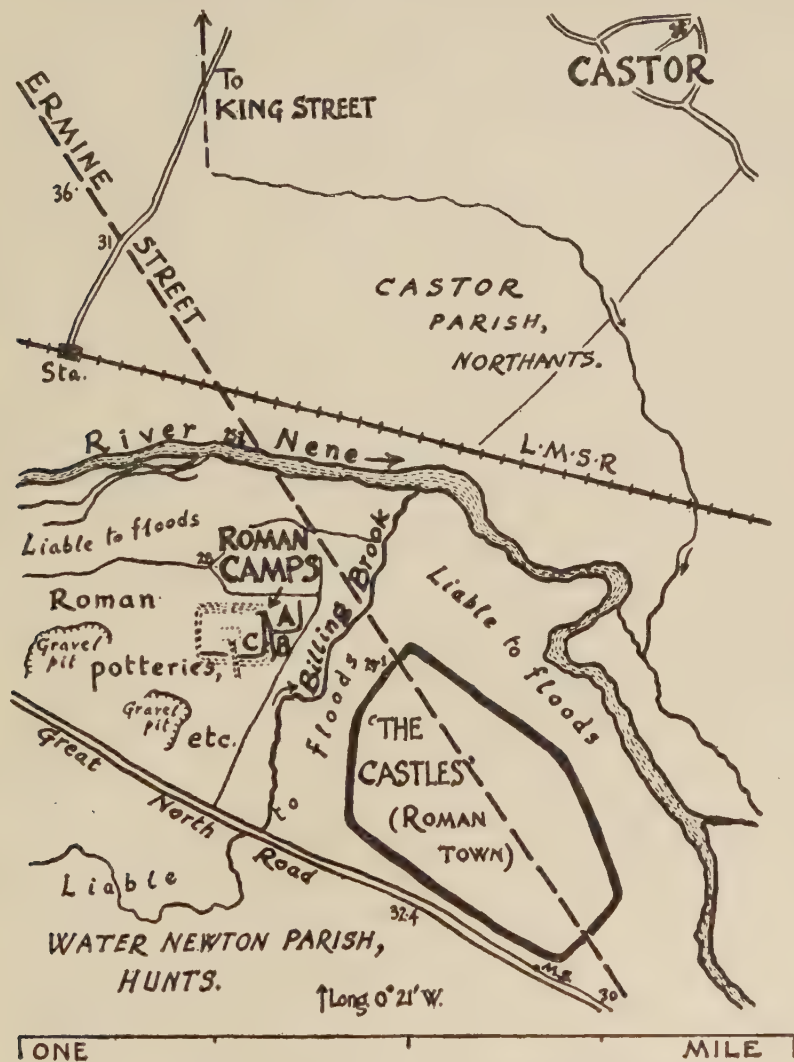


FIG. 1. SKETCH-MAP SHOWING THE CASTOR ROMAN CAMP-SITE

straight through it from southeast to northwest, just north of the milestone on the modern Great North Road marking 5 miles to Stilton and 9 to Stamford (FIG. 1, from 6-in. O.S. Hunts, II, NE). The aviators

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saw the Roman town-plan here, with its streets and some of its houses, plainly outlined in the corn. But also, a little further to the northwest, across the rivulet known as the Billing Brook which flows past the town's west wall, they saw something else, similarly outlined, which had remained unknown to Artis and all other earth-bound observers. It was the plan of a fine Roman military camp, 'complete with rounded corners, and, on the north side, no less than four parallel ditches'. Mr Crawford goes on: 'It reminded one of the fort at Ardoch in Perthshire which we visited two days later. Such a camp must surely belong to the 1st century, the period of the Roman conquest of England. Its survival through the Roman period—when the whole site was covered with pottery kilns—and through the vicissitudes of subsequent history, to be revealed thus as a shadow in the corn, is surely one of the most romantic episodes of modern discovery. It is also a new historical fact of prime importance to students'. Unfortunately it was not possible to get a photograph taken immediately, and though the discovery attracted great attention at the time, it was only on May 8 of the present year that the site was finally photographed from the air, at Mr Crawford's suggestion, by Major G. W. G. Allen. The result is seen in the PLATE facing FIG. 2 which has been prepared to show as much as can be made out of its significant features.\*

The main thing visible, in the centre of the plate, is the outline of a quite large and wholly typical Roman camp (c), of the unmistakable 'playing-card' shape, oblong with rounded corners, and lying nearly due east and west. The outline is indeed very faint on the north and west, and the northwest corner appears to lie outside the picture, but the two eastern corners are clear, the southwest one just detectable, and the plan emerges accordingly as very nearly a rectangle, of mean internal dimensions roughly 600 by 450 feet, and internal area about 6 acres. This outline is that of the innermost of the camp's defensive ditches. Outside it appear the traces of others. It is unfortunate that the north side, on which Mr Crawford saw no fewer than four parallel ditches in 1930, shows up so badly in the photograph; but at least one faint vestige of each of the four can just be seen, westward of the blossoming may-trees in the field-hedge at the top of the plate.

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\* The dimness of the photograph is due entirely to the fact that the field was planted with an unsuitable crop. It seemed better, however, to publish it now, faint as the record is, than to wait for a crop of corn and a dry year—a combination that may be long in coming again. At the time of discovery I implored Cranwell to get it photographed, but without result.—O.G.S.C.



## ROMAN CAMP-SITE NEAR CASTOR ON THE NENE

The total depth of the series here would seem to be about 60 feet. On the east and south the next ditch to the innermost, running some 15 feet from it, is visible in very fair continuity; but outside of this, though portions of anyhow one more are plain in places, matters are not so clear. For on the east the course the outer lines should follow is crossed by a ditch running not parallel to the innermost, but obliquely outwards, from close proximity to it near the northeast corner to a distance of something like 60 feet outside at the southeast. There, after turning through a wide arc, it apparently aligns itself with the innermost along its south side; but this may be an illusion. For, if on the south it is only the outermost member of an aligned series of ditches, it cannot easily be supposed to follow an oblique course of its own on the east; and it appears more likely that there at least we are looking at a ditch belonging to a different camp (B), with its axis set obliquely to the alignment of the main series. In that case we have not one camp, but two, successive occupants of the same site but diverging slightly in orientation, as for example in the well-known instance of the camps on Treacastle Mountain in South Wales.<sup>7</sup> And northeast of the main site, amid the blotched and patchwork markings assignable to the later Roman occupation and its potteries, appears what may very well be part of the outline of yet another camp (A), with its rounded southeastern corner close to the largest tree in the hedge-line on the right of the photograph. Northward and westward its extent remains uncertain, but its disappearance in the latter direction may be taken itself as a fact of cardinal importance, caused as it seems to be simply by the obliterating presence of the ditches of camps B and C. It means that as far as present appearances go, camp A should be the oldest of the series. Its orientation is nearly but not quite the same as that of C, while that of B is oblique to both; and B's intermediate position in age between A and C seems assured, if we accept it as indeed the vestige of a distinct camp, by the fact that it appears to truncate the south side of A, while itself truncated by the northeast corner of C. Our alphabetical order for the three apparent systems will then represent a chronological sequence of three successive camps.

Of the internal features of A it would be rash to speak, since any or all of the visible markings may belong to potteries or other remains of the later civilian Roman occupation, some of which were indeed

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<sup>7</sup> Wheeler, *Prehistoric and Roman Wales*, 219-220, fig. 93.

## ANTIQUITY

excavated on this very site by Artis.<sup>8</sup> And if B has any visible internal features they can scarcely be distinguishable from those of C. But the latter, among which Artis seems to have refrained from operations,<sup>8</sup> demand some notice. The eastern and southern portions of the site show something of a system of divisions, enclosed by 'intervallum' lines running 60 feet or so inside the innermost of the enclosing ditches. And other lines seem to run from the west to the central portion, where there are clear vestiges of a complex that should represent the headquarters area of the camp. At any rate this appears to interrupt the course of the only certain road which the photograph displays. This is marked by two parallel gutter-ditch lines, some 20 feet apart, running just west of north through the ditches of the camp's south side, to stop some 180 feet farther on at the edge of the headquarters complex just mentioned. No trace of its emergence again on the north seems to be visible, and of lateral roads it is hard to speak with any confidence, though on the east there may conceivably be one along the line of the south side of camp A. At any rate this one main road into camp C from the southward is unmistakable. It cannot be called with absolute certainty coeval with the camp, for though its entry through the latter's southern defences shows the two integrated together, yet its alignment is oblique to the camp's lay-out, and rather more nearly parallel to the apparent axis of camp B. It may possibly therefore be as early as B, C being laid out subsequently astride it but with a different orientation. Its relationship to camp A, if any, is undetectable.

Now it is at once apparent from FIG. 1 that this road is not the Ermine Street that runs through the 'Castles' town-site, but a different road belonging only, it would seem, to the period of the camps. Indeed, it may well be the predecessor of the Ermine Street hitherto known. One may compare the case of the early Roman fort of *Margidunum* in Nottinghamshire, through which the original Foss Way, the well-known early Roman frontier-road from Lincoln to Leicester and the southwest, threads itself on a course quite different from the mathematically direct one on which it was relaid across the site in the early 2nd century, when the original defences had been razed.<sup>9</sup> And there is a further reason why the known course of Ermine Street,

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<sup>8</sup> See his plan of the site in *Durobrivae*, pl. XXIII, and for its position, pl. 1; it lies in the north of the eastern portion, in Artis' day subdivided by field-boundaries now vanished, of the area called Conygree Close or Field: cf. *V.C.H. Hunts.*, I, 230.

<sup>9</sup> F. Oswald, *Margidunum* (Nottingham Art Mus. reprint from *Trans. Thoroton Soc.* 1927), I (with pl. 1), 8, 34.

## ROMAN CAMP-SITE NEAR CASTOR ON THE NENE

running through 'the Castles' and across the Nene northwestwards, by Great Casterton in Rutland, and only farther on swinging north to Ancaster and Lincoln (FIG. 3), may be suspected of being later than the initial phase of military occupation represented by our camp-site. Ermine Street is not the only Roman road running from this crossing of the Nene into Lincolnshire. It is duplicated for some 30 miles by the road known as King Street (FIG. 3). This is set out on an alignment only just west of due north as far as Bourn, after which it slants off more sharply to join the Ermine Street line at Copper Hill, just short of the probable site of Causennae<sup>10</sup> at Ancaster, while a more direct continuation of its initial alignment, with the name of Mareham Lane, runs on to Sleaford, and thence in all probability not to Lincoln but rather northeast, by Tattershall Bridge, towards the Wolds.<sup>11</sup> King Street is not now traceable until it passes out of the Nene valley and appears running nearly due north along the western edge of Ailsworth Heath, but if its general direction towards Bourn already holds good over this 2½-mile interval, its line will be found to start not from Castor or 'the Castles', but rather from our camp site (FIG. 1). King Street, in fact, looks like the northward continuation of the road we have seen entering camp C from the south in the same direction. If so, it will be explicable as the early or military North Road in this sector, with the Ermine Street of our maps for its civilian successor.

It is true that the lay-out of its junction with Ermine Street at Copper Hill suggests it was secondary to the latter, but this may be an illusion, especially if its objective at Copper Hill was—as it may well have been—another military camp, the predecessor of a civilian Causennae (if that was really the name) just as our Castor camp-site is of a civilian Durobrivae. Inferring the relative age of Roman roads from their apparent lay-out in ignorance of the age of the sites with which they connect may often be a rash proceeding; the change-over from an early military to a later civilian occupation of an area may anywhere have involved enough re-planning to mask the historical facts. It is only when the relative age of individual sites begins to be apparent that their accompanying roads can be historically considered. And so here the discovery of the Castor camp-site, which can only belong to the initial Roman period of military conquest and garrison, may supply the clue to the puzzling Ermine Street-King Street duplication of

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<sup>10</sup> On the question of this identification see *V.C.H. Hunts.*, 1, 262-3.

<sup>11</sup> C. W. Phillips, *ANTIQUITY*, 1931, v, 355-9; *Arch. Journal.*, xci, 111 and pl. xxiii.



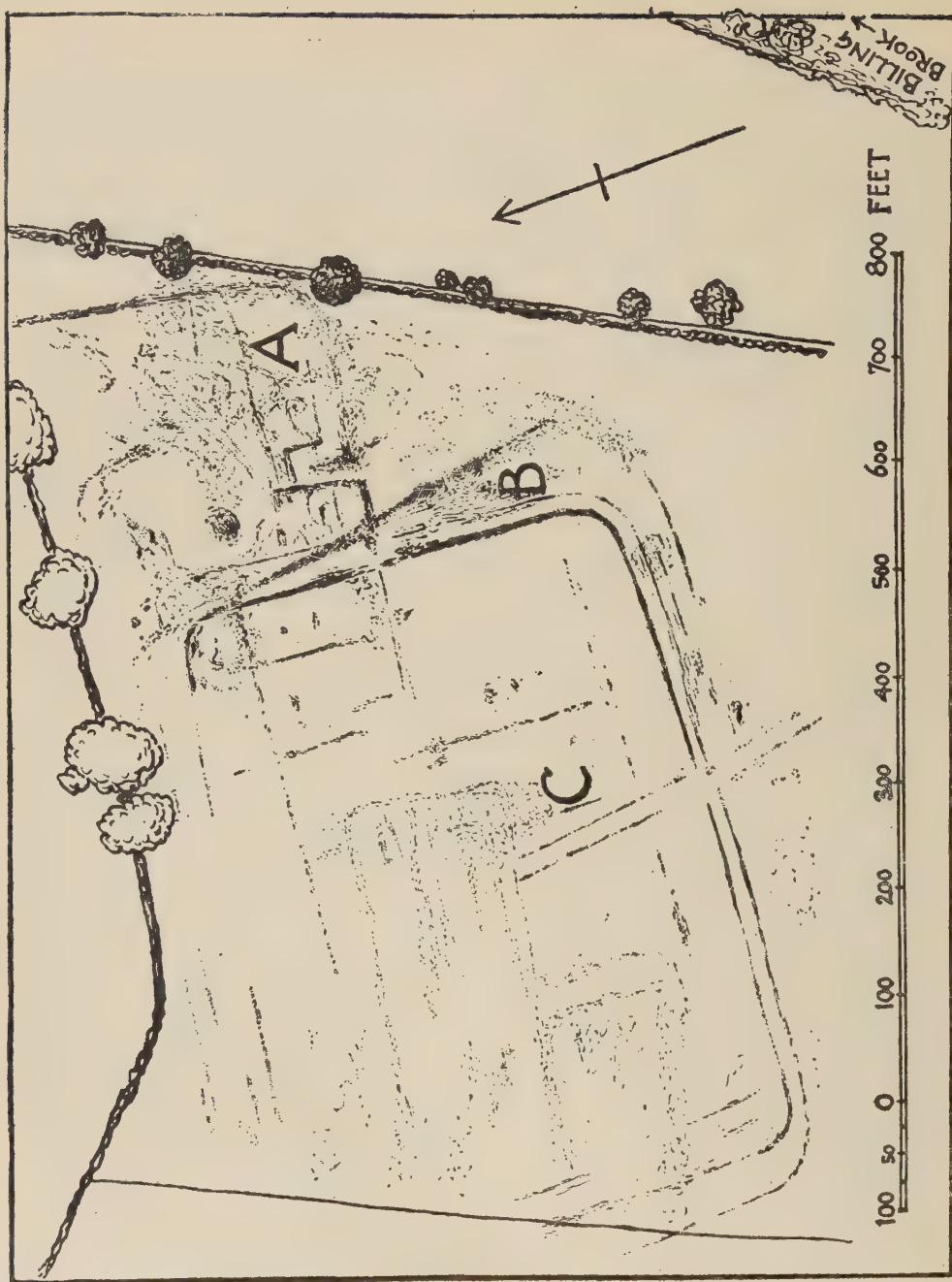


FIG. 2. SKETCH-PLAN OF THE APPARENT AIR-PHOTOGRAPH EVIDENCE FOR THE CASTOR CAMPS (cf. PLATE facing)



THE ROMAN CAMP-SITE AT CASTOR  
*Air-ph.* Major G. W. G. Allen





## ROMAN CAMP-SITE NEAR CASTOR ON THE NENE

road-plan by fixing the priority of the latter. If so, the original Roman military North Road, approaching the Nene on a line already different from the recognized Ermine Street, by way not of the civilian 'Castles' but of our newly-found camp-site, will thence have taken the King Street line, by Bourn (whence the Mareham Lane branch led off to Sleaford and the Wolds) to Copper Hill and so to Lincoln. The Ermine Street line 'Castles'-Great Casterton-Ancaster-Lincoln will then, in the form in which we know it (dotted line on FIG. 3), be the result of subsequent replanning, referable to the change from military to civilian conditions which began in the later 1st century.<sup>12</sup>

There is one other point in support of this notion. It is well known that the legion which formed this eastern wing of the Roman advance was Leg. IX Hispana, whose establishment in garrison at Lincoln is generally connected with the Midland frontier-line initiated by the governor Ostorius Scapula in A.D. 47.<sup>13</sup> One of the pieces of supporting evidence is the tile stamped with this legion's stamp LEG. IX HISP found at Hilly Wood in the Northamptonshire parish of Ashton, which supplies, as was first pointed out by Haverfield, a pointer

<sup>12</sup> Though a certain number of bronze coins of Claudius have been recorded from the 'Castles' site, the main body of its coin-list begins with Vespasian (*V.C.H. Hunts.*, I, 236), and the known pottery and small finds there begin with the Flavian period (*ibid.* 248). In *Antiq. Journ.*, xv, 113-118, Mr I. D. Margary describes, with air-photographs and plans, a series of seven Roman roads in the Castor area argued by him to be later in date than Ermine Street. King Street is not among them, its line being here as invisible from the air as on the ground, but he supposes, with Codrington (*Roman Roads in Britain*, 121) that it was later than Ermine Street also. 'It seems clear' he says (117) 'that Ermine Street was the first', but surely at most only of the series he describes; while 'King Street must have been the next to be made' (118) is really a statement of opinion only, and Mr Margary's contention that the Fen Road from Denver and Whittlesey through Peterborough was planned to effect a junction with King Street and not with Ermine Street (114-5, 118) would appear to be probable rather than proved. Even if proved, it does not show King Street to be later made than Ermine Street. Mr Margary's article is a most valuable account of the civilian road-system of the Castor area in Roman times, and it is unfortunate that the failure of our camp-site to show up in his air-photographs precluded him from considering the topography of the antecedent military phase. However, it should be noticed that another camp did show up, and is to be seen in his plate XIII about  $1\frac{1}{4}$  miles northwest of our site; it is a rectangle with rounded corners, measuring some 330 by 220 feet (113), and though lying close beside Ermine Street, is aligned not with it but with the Roman road that runs off west to Wansford almost opposite its centre. It would be most interesting to learn the date of this camp, and its relation to those we are here considering.

<sup>13</sup> Tacitus, *Annals*, XII, 31; Collingwood, *J.R.S.* XIV, 252-6; Davies Pryce, *Antiq. Journ.*, XVIII, 29 ff.

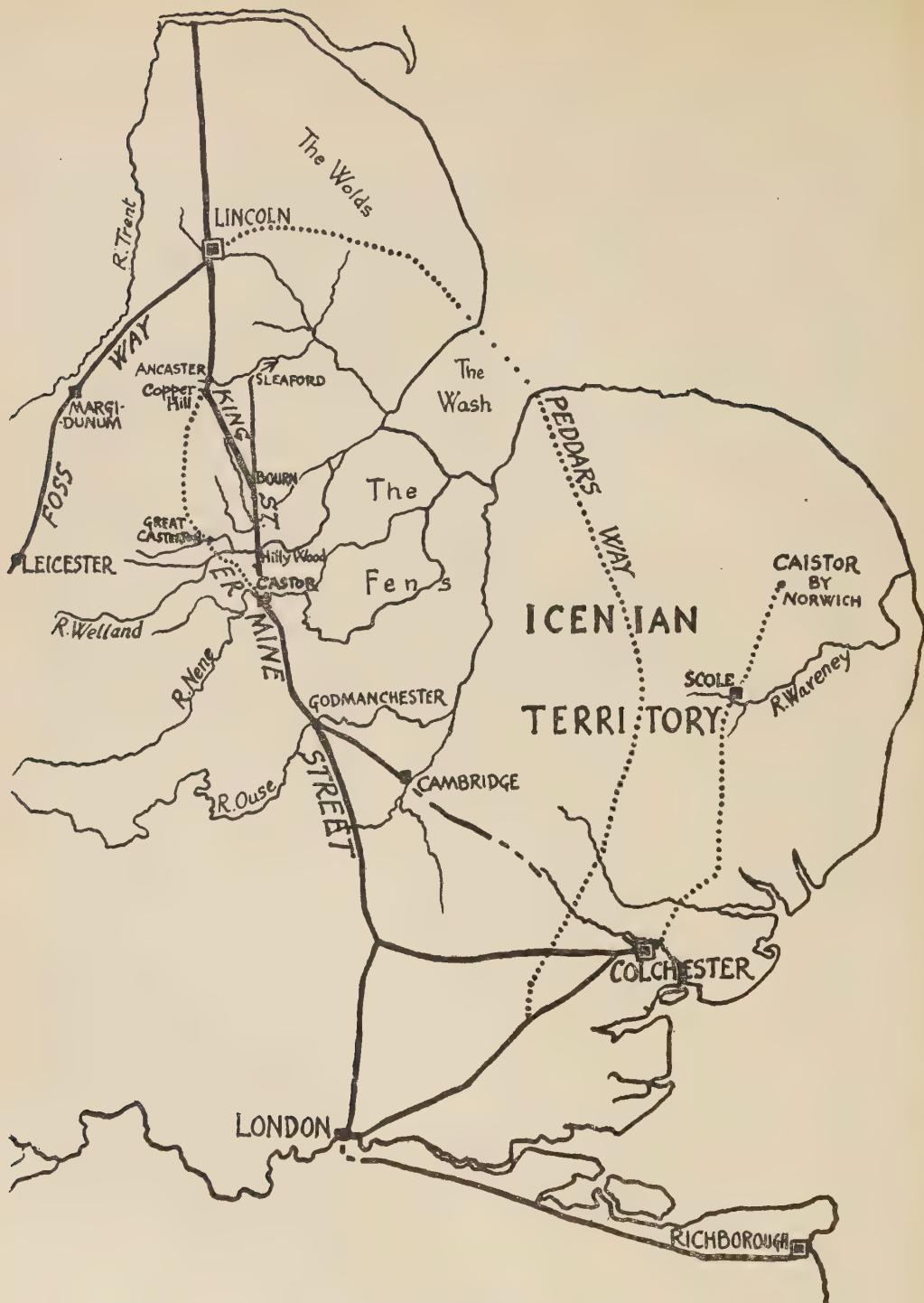


FIG. 3. SKETCH-MAP TO ILLUSTRATE EARLY ROMAN OCCUPATION IN THE EAST OF BRITAIN  
Roads certainly or probably earlier than A.D. 61 in continuous line; later than A.D. 61 in dotted line

## ROMAN CAMP-SITE NEAR CASTOR ON THE NENE

to its line of advance and communication from the southeast past Castor to Lincoln.<sup>14</sup> This tile has recently been published in facsimile by Dr Davies Pryce,<sup>15</sup> who follows Haverfield, but connects the find with Ermine Street, and marks the site on his sketch-map as west of that road's course through Northamptonshire, that is, in the parish of Ashton near Oundle.<sup>16</sup> But there are two Northamptonshire parishes of this name, and Hilly Wood is not in that one but in the other, which lies near Helpston in the Soke of Peterborough, fifteen miles further to the northeast, and right away from the line of Ermine Street. It is in fact King Street on which this Ashton lies, about midway between the Nene at Castor and the Welland, which it crossed at Lolham Bridges,<sup>17</sup> and its course actually forms the boundary of Hilly Wood, which is furthermore such a narrow strip of woodland that the tile must have been found in very close proximity to the road.<sup>18</sup> The Hilly Wood tile is therefore evidence that the early military road between Castor and Lincoln, the route of the IXth Legion, was not Ermine Street, but King Street as we have already argued.

It is to the IXth Legion, then, or to auxiliaries operating with it, that we may presumptively assign our Castor camps. Camps A and B may most probably be successive marching-camps, representing the two earliest traceable occupations of the site by Roman troops. Since the area of A cannot be determined from the photograph, we cannot guess the size of the force it housed; B is not properly determinable either, but it does not look as if its area was much greater than that of C, to which we must now return. C's internal area of 6 acres would accommodate two cohorts of a marching legion, for on the evidence of marching-camps in Scotland we may posit a scale of thirty acres to the full legion of ten cohorts.<sup>19</sup> It is not however necessary to regard it

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<sup>14</sup> Peterborough Museum. *Eph. Epigr.* III, p. 142; *V.C.H. Northants*, I, 214-5.

<sup>15</sup> *Antiq. Journ.*, XVIII, 46-7, fig. 3, 6.

<sup>16</sup> *ibid.* 39 and map (FIG. 1) 32.

<sup>17</sup> Mr C. W. Phillips points out to me that the extreme liability to floods of this crossing of the Welland would militate strongly, after some years of experience, in favour of creating the Ermine Street route as a better alternative.

<sup>18</sup> 6-in. O.S. Northants, II, SE; Haverfield in *V.C.H. Northants*, I, 204, 214-5, and 168 with map, fig. 4. Haverfield's plea (215) for further work on the Hilly Wood site seems to have remained unanswered. He records that the tile is said to have been found 'with an empty urn', and it may have been deposited as the lid of a cremation-interment, perhaps one of a cemetery. In any case further investigation seems urgently desirable.

<sup>19</sup> Richmond, *Arch. Journ.*, LXXXIX, 51.



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simply as a marching-camp and nothing more. True, it has not the distinctive pattern of the semi-permanent camp or police-fort of the same period on Hod Hill in Dorset, which was occupied for some fifteen years or more under Claudius and Nero ;<sup>20</sup> nor can we claim that it was designed for the same degree of permanence as the frontier-fort of Margidunum already mentioned, where the garrison occupation lasted as long and longer.<sup>21</sup> Both these sites have an internal area of some 7 acres, whereas one may suspect that their garrisons did not exceed in numbers the two legionary cohorts which in a marching-camp only occupied 6 acres. For Roman forts for long-term garrison were made to allow more room per man than did the temporary marching camps.<sup>22</sup> But differing as it does from these more permanent and proportionately larger-sized establishments, our 6-acre camp c yet has, in its multiple ditches, and comparatively well-marked internal features, points which imply something less ephemeral than a marching-camp *sensu stricto*, such as may be represented by camps A and B. The vital crossing of the Nene cannot have been left ungarrisoned by an advancing Roman commander so long as his line of communications across it was in any way vulnerable. And if camps A and B stand for initial temporary occupations, one would expect these to have been followed by one of longer duration, such as camp c's visible characters seem to imply.

Camp c may then have been continuously garrisoned for some little time. And if so the suitability of its size for two legionary cohorts, acceptable in a true marching-camp, will become problematic : unless they were not merely under their paper strength of 600 men but expected to remain so, they would require more room, and in any case their detachment from their legion is improbable for this sort of garrison duty, which was normally discharged by auxiliaries. If then there were auxiliaries here, the camp, though too big for a milliary

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<sup>20</sup> Kendrick and Hawkes, *Arch. in England & Wales*, 214-5 ; Crawford and Keiller, *Wessex from the Air*, 38-41 ; *Antiq. Journ.*, xvii, 278 and note 2 ; xviii, 30 and note 1.

<sup>21</sup> Oswald, *op. cit.* ; Kendrick and Hawkes, *op. cit.*, 215-6.

<sup>22</sup> The internal area of Margidunum is given as about 6½ acres by Collingwood (*Arch. Roman Britain*, 28) ; Dr. Oswald, the excavator, gives it as 7-8 acres (*op. cit.*, 8). The nature of the Margidunum garrison is uncertain, but one would expect auxiliaries ; at Hod Hill legionaries were certainly present at some time or other, as is shown by the remains of armour and arms from the site, including the legionary *pilum*, in the British Museum. The area of the Hod Hill camp is about 7 acres, not 3.4 as implied in *Wessex from the Air*, 38, by comparison with camp d at Cawthorn in Yorkshire, which contains actually rather over 3.5 acres (Richmond, *Arch. Journ.*, lxxxix, 70).

## ROMAN CAMP-SITE NEAR CASTOR ON THE NENE

cohort of them (about 800 men), which even in permanent garrison occupied only 4-5 acres, might be comfortably occupied by two quin-genary cohorts (each about 480 men), or by some composite force including cavalry, possibly a *cohors milliaria equitata*, which differed from the ordinary milliary cohort in including horsemen, and may be reckoned to have required rather more space in consequence. These are speculations; similarly, the length of the occupation can only be guessed at. The stage of temporary marching-camps can hardly have outlasted Ostorius' establishment of the ixth Legion at Lincoln in A.D. 47, and while camps A and B should thus presumably belong to the preceding years under the first Claudian governor Aulus Plautius, camp C may be conjectured to date at least from that year, and must then, one would think, have been held in strength throughout Ostorius' stormy governorship, which ended with his death in 52. But it is reasonable to guess that it was given up between that date and the revolt of Boudicca nine years later, for from Tacitus' account it looks as if when the rebels sacked Colchester there were no regular troops stationed anywhere nearer than the legion in its fortress at Lincoln.<sup>23</sup>

All these are questions which excavation alone can answer. That that may not be long delayed will be eagerly hoped by everyone interested in Roman Britain. Such opportunities, in the Lowland zone of the province, are likely to be rare. On this Lincoln route, for instance, the passage of the Ouse, where the trunk lines from London and Colchester<sup>24</sup> meet, must have been similarly garrisoned, but it is only too likely that the camp-site has been obliterated by the buildings of Godmanchester or of Huntingdon. At Cambridge, indeed, where the Colchester-Godmanchester line crossed the Cam, recent discoveries point to an early occupation in the Castle Hill quarter, which may well have been military,<sup>25</sup> but here again the ground is encumbered, as it very probably is on what was doubtless the ixth Legion's initial station under Aulus Plautius at Colchester. The Castor camps are in fact not only at present unique, but quite likely—for the east of England at all events—to remain so. Only one other suggestion of the discovery of a multiple-ditched Roman camp seems to be on record in the whole country between the Thames and the Fosse Way. This is near Scole,

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<sup>23</sup> Tacitus, *Annals*, XIV, 32.

<sup>24</sup> The missing Colchester end of this road was recovered by excavation in 1936: *J.R.S.*, XXVII, 240.

<sup>25</sup> I owe knowledge of this unpublished material to the kindness of Mr T. C. Lethbridge, F.S.A.

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on the boundary of Norfolk and Suffolk (FIG. 3), where the Roman road from Colchester to Caistor-by-Norwich crossed the Waveney.<sup>26</sup> But the context of a camp here might well be different from that of the route to Lincoln from Colchester or London, for the Iceni of East Anglia were accepted at first as allies of Rome, and Rome, despite the trouble with them in 48, was seemingly long content to leave their territory relatively unattended to, on the right flank of the main northward and northwestward advance. In fact, it seems to have been only after this policy had had its sequel in the revolt of Boudicca in 61 that the great military road that we call the Peddars Way was made across the Icenian country,<sup>27</sup> cautiously starting on the London side of Colchester and giving communication with Lincoln and beyond by a ferry across the Wash,<sup>28</sup> and there is no reason for assigning any earlier date to the road from Colchester to Caistor by way of Scole.<sup>29</sup> It is then very possible that a military camp in this direction may date only from the morrow of the revolt, antedating by no more than a decade the establishment of civilian life among the Iceni in Romanized towns and villages, which began in the Flavian period.

At Caistor, on the other hand, if our conjectured diagnosis of this photograph is at all correct, we have three camps, of which A and B seem quite likely to belong to the period c. 45-47, while C may itself be as early as the latter year, and may yet very probably, after an occupation of moderate length, have been abandoned already during the '50's. Even if this prove too sanguine an estimate, the place is unquestionably a pre-Flavian military site, to which an early Claudian beginning cannot reasonably be denied. Its encumbrance by later potteries, etc., seems from the photograph to be less serious than one might have feared. Could there be a clearer case for excavation? Here is a chance for opening quite a new chapter in the archaeology of Roman Britain.

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<sup>26</sup> *Proc. Prehist. Soc. E. Anglia*, 1, 321-3; *Proc. Suffolk Inst. of Arch.*, XXII, 269.

<sup>27</sup> *Norfolk & Norwich Arch. Soc.*, XXVI, 153-9.

<sup>28</sup> ANTIQUITY VI, 342-8.

<sup>29</sup> *Norfolk & Norwich Arch. Soc.*, XXVI, 161-2.



# The Winding Road

by F. G. ROE

IT has often appeared to the writer to be a really remarkable circumstance, during the long and sometimes acrimonious controversies of the nineteenth century concerning the various physical, social, and 'technical' phenomena (methods, etc.) characterizing the Saxon settlement of Britain and its more immediate antecedents, that among the various protagonists of the first rank, none seems to have thought it worth while to visit those lands where an essentially similar environment still prevailed, and to see for himself what they might yield. To make such a statement concerning archaeological students of today would certainly be to invite questions in return, which are not easily answered. What *was* the (physical) environment of early Saxon England; and where shall we find its 'essentially similar' counterpart? But at the time of which I speak, such doubts may almost be said to have been non-existent. Whatever opinions were held concerning Roman centuriation, or Teutonic three-field systems, the old 'traditional' view of England as 'a land of forests', 'one great wood', etc., seems hardly to have been questioned. Under such conditions, virtually any forest country occupied by settlers of European birth or descent would serve the required purpose.

The truth of this is revealed in the very language of many of the investigators themselves; uttered, one might almost say, in the very agony of their dubious peerings into the dim twilight of an irrecoverable past. Kemble wrote as follows (*c.* 1849):

'This state of society, if society it can be called, is rarely exhibited to our observation. The backwoodsman in America, or the settler in an (*sic*) Australian bush, may furnish some means of judging such a form of civilization; and the traditions of Norway and Iceland dimly record a similar process: but the solitary labourer, whose constant warfare with an exulting and exuberant nature does little more than assure him an independent existence, has no time to describe the course and the result of his toils: and the progress of the modern settler is recorded less by himself, than by a civilized society, whose offset he is . . .'<sup>1</sup>

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<sup>1</sup> *Saxons in England*, 1876, I, 67; cf. *ibid.* I, 125.

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A similar point of view is found in other scholars ; both as regards North America, and other lands, including Russia. The inclusion of Russia is of significance, in my own opinion, for more than one reason. The great Russian scholar who has done so much to elucidate many problems in this field, observed years ago :—‘ Questions entirely surrendered to antiquarian research in the west of Europe are still topics of contemporary interest with us . . . ’<sup>2</sup> My own observations in various ‘ Russian districts ’ in the forest portions of Alberta during many years revealed a fundamental similarity of method in many matters of hand-labour, where alien machine-usages at first *cannot* intervene to standardize, to those exhibited both by various settlers of the ‘ first generation ’ from Teutonic lands, and by native woodsmen of several generations’ standing, from Eastern Canada or the Atlantic States. I have long been of opinion that the broad similarity to their native environment, despite the manifest and visible certainty of years of much harder toil awaiting them than on the plains, was one of the principal attractions to the early Russian settlers in northern Alberta. The history, and particularly the chronology, of the settlement of the ‘ German state ’ of Wisconsin and the ‘ Swede state ’ of Minnesota, point to a similar conclusion. And modern antiquarian research concerning our Anglo-Saxon ancestors, with their preference for those heavily-wooded valley lands, leads one to suspect a similar incentive as a powerful influence in their case.

But despite the illumination which some of the earlier at least of these phenomena in one land or another ‘ might have possibly ’ thrown upon the problems of scholars well aware of the chance of it, none of them, so far as I have been able to discover, made any attempt to utilize it. The object of the present paper, as far as in me lies, is to draw upon this class of long-neglected evidence in the elucidation of the origins—at large—of the winding road. Much has been written at one time or another on what the old pathfinders, trail-breakers, road-surveyors, or what you will—‘ must have done ’. Some of this, coming from men who almost certainly have had no occasion to practice trail-breaking under the *real* spur of necessity, must be regarded as magnificent reconstruction. I have encountered other examples, with great names behind them, which left one wondering if the author were blind, or had ever been out-of-doors in his life ! In my earlier years in Alberta, I have both ridden and freighted by wagon over previously untracked

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<sup>2</sup> Vinogradoff, *Villainage in England*, 1892, pp. v, 236.

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wastes, where the discovery of a practicable ford over a creek, or a passage across a 'slough' or 'muskeg' (*i.e.* marsh), was a matter of immediate and vital importance.

I have had to balance the various considerations, *pro* and *con*, which govern the choice of a site for the evening camp and for the permanent home. And I have seen the first faint track of some outlying neighbour—sometimes, as it were, a thing of chance; sometimes 'surveyed' through scrub and timber for permanent use as carefully and skilfully as any railroad route—grow into a well-marked trail along which (in dry weather) an automobile could travel at any speed practicable on the best of roads. In the light of these experiences, it may be of interest, perhaps also of some permanent historical value, to describe what we actually *did* do as roadmakers. It may also serve to illustrate what others 'must have done'. For men are often curiously alike in their solutions of similar problems before machinery took over the task.

The winding roads and lanes of England have given rise to much speculation at different times concerning their origin. They are in particular one of the standing surprises to the Transatlantic visitor; reared in a world of square city 'blocks' and—even before the motor-highways—straight 'concession lines' and 'road allowances'. This is not remarkable; seeing that in their own native environment many English writers and also some professed historians have either given up the problem as frankly insoluble, or have advanced semi-humorous 'explanations' which could only have been meant to hide their real ignorance. 'Curving away because the dog barked loud', in a society where the stranger's only hope lay in coming forward openly; this would involve—if taken seriously—that English roads were almost exclusively broken out by thieves and scoundrels, the very class who avoid roads as far as possible. So also, winding about 'in an unaccountable fashion';<sup>3</sup> or, 'as if for the very sake of winding'. This would be to invest the long arm of coincidence with a power that would eclipse—and justify—the wildest effort of the romantic fictionist; when 'chance' could produce identical results in countless instances in widely-sundered localities. Apart from what seems the fundamental absurdity, *a priori*, of the corporate locomotion of any people being conditioned upon chance, the factors of wide distribution and (much) largely contemporaneous origin in my view point clearly to widely-prevalent physical

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<sup>3</sup> W. Jerrold, *Middlesex*, p. 257. He quotes also (p. 257) the verses on 'the wobbling calf'.



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conditions and certain resultant principles, which could be applied whenever occasion arose.

Before proceeding further, it is perhaps not irrelevant briefly to review the question of the supposed continuance on a general scale of Roman (or pre-Roman<sup>4</sup>) road systems unchanged in alignment down to the present day. It is not necessary to subscribe to the fantastic supposition of Roman Britain as a perfectly-organized Roman polity, fully equal in every phase of social and 'mechanical' expression of civilization with the Eternal City itself; and handed over to the Anglo-Saxon invaders in unimpaired 'running order', much as one engine crew turns a locomotive over to another. It is nevertheless possible that in some places the modern (*i.e.* pre-motor) principal English roads may actually lie for material distances on the very same alignments as their Roman 'predecessors' between the same general points. But there are some strong conflicting considerations against this as a general truth. Even as the political subdivisions of Roman Britain corresponded in no single case with the later English 'shires', so also, many of the Romano-British cities were more or less distant from the (roughly corresponding) local capital of the district in later times. Even so little as a mile or thereabout, as at Verulam—St. Albans,<sup>5</sup> might be sufficient to necessitate great changes, under certain topographical conditions.

A great authority has stated that no instance was known of the invaders utilizing any deserted Roman villa as a home.<sup>6</sup> This would inevitably entail the abandonment of many Roman 'roads'—or tracks—and the striking out of others to the more favoured sites. Some of these might be utterly obliterated in a fairly short time by cultivation; others may possibly persist to this day as 'green roads', or those 'drovers'

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<sup>4</sup> Rice Holmes speaks of 'the trackway on the line of which the Romans at a later period made the great road called Watling Street' (*Ancient Britain*, p. 344). Dr Williams-Freeman considers that 'the pre-existence of a British track along the direction of a Roman road seems to be the rule, rather than the exception . . . (*Field Archaeology of Hampshire*, p. 220). The Icknield Way is a British trackway; so, A. Mawer, *ANTIQUITY* 1, 152; but apparently never 'Romanized' throughout in construction. Watling Street (north of London) and other 'Roman roads' not British 'intertribal tracks' in Haverfield's opinion: *Eng. Hist. Rev.* ix, 725; cf. *ibid* xi, 428-30. Later, to Rice Holmes, 'I know nothing satisfactory about the line of Watling Street, and nothing to suggest that it existed before A.D. 43 . . .' (Holmes, *op. cit.* p. 705).

<sup>5</sup> See *ANTIQUITY*, 1938, xii, 16-25.

<sup>6</sup> Haverfield, *Roman Occupation*, p. 274.

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roads' or 'packhorse ways';<sup>7</sup> which doubtless survive in living memory as alternative ways between various points and London, along which men might perhaps find better fare for their beasts than along the recognized high roads, while also evading turnpike dues. I have myself encountered wayside indications of other road-systems than those now in use in that particular locality. There remain also two factors of prime importance; and I believe that the latter in particular very often fails to receive due recognition. These are the lapse of time between *permanent* Roman and Saxon occupation, and the moist English climate.

Haverfield was inclined to antedate the Roman 'abandonment' of Britain to A.D. 407, rather than 442, as preferred by Bury;<sup>8</sup> and the loosening of the Roman grip may have begun sixty years before that. I consider that public works of this character are precisely those which begin to suffer first in any society which regards its future as precarious. Security of possession is a fundamental incentive toward maintenance and upkeep; and among causes and effects of social disintegration, one of the commonest is the impairment of the financial machinery which provides for such matters. Recent historians are recognizing that the era of 'Roman Britain'—for whatever it may be worth—must at least be extended down to the time when something like an orderly English local administration of affairs had had time to shape itself.

We have here a series of physical phenomena, which it seems fair to assume were exposed during the larger part of two-and-one-half centuries to almost entire neglect, together with the natural ravages of a highly unfavourable climate. We have practically nothing to oppose to the consequences which such premises would logically suggest, except some rhetorical platitudes about the indestructibility of Roman

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<sup>7</sup> See Cox, *Green Roads of England*, 1922. Oman thinks that 'in some cases they made shift to employ the old tracks during the whole period of their occupation of Britain'. (*Eng. Before the Norm. Conq.*, pp. 80-1). No doubt the Icknield Way would be an outstanding instance. We may, I think, be sure that the by-road to every Roman villa was no Watling Street. Mr Belloc talks of the puzzling 'disappearance of Roman roads all over the country': (*Warfare in England*, p. 80). I doubt if there were as many 'Romanized' roads to disappear as he seems to think. Tacitus mentions British complaints of 'difficult cross-country roads' (manifestly in contrast to better main ones: *Agricola*, cxix; cf. *ibid.* cxxxi). It is against all economic and administrative usage to suppose such distinctions would not persist; and the disappearance is not puzzling, except to those who substitute their own intuitions and prejudices for research.

<sup>8</sup> *Roman Occupation of Britain*, p. 157; cf. *History*, x, 325.

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roads, 'lasting for ever'. Nothing lasts for ever, not even a Roman road; and the greater the resistance, the greater, inevitably, must be the force which finally overwhelms it, and its ruin (as an integral whole) the more complete.

The supreme enemy of all roads is water. Robert Stephenson laid it down as a principle that standing water must not be allowed to approach within less than three feet of the grade surface of a railway.<sup>9</sup> Though not a civil engineer, I have done a good deal of grading work on 'dirt roads' where we had to provide for drainage with nothing but our own experience and such material resources as the woods might furnish. In such conditions, it does not take long to recognize the danger-spot on one's road. This, in an irregular country, is where the topographical surface-contour changes from being below your road to above it, or from 'fill' to 'cutting'; necessitating a long ditch through this entire section, or passing the drainage under your road to follow a natural fall—perhaps both. At one precise spot, your drain and the topographical surface are absolutely level with each other. This is the exact place where free out-fall must at all times be maintained; and experience shows it to be the one where it is most difficult to maintain it. At this point, the ditch (if it be unlined) changes from its soft clay bottom to encounter the stubborn sod of the surface with its tough grass roots impeding the flow of the water and sedimentary silt. A chip, a small tuft of grass or leaves, a pebble, the silt washed down by heavy rains and slowly settling as it passes along the ditch—particularly as the volume of water decreases and the current slackens in consequence; and before very long the water is 'backing up' and running *over* the road instead of beside or beneath it, and its certain destruction is only a matter of time if no relief comes, Roman road though it may be. It is almost impossible for us even to conceive of any process of neglect and decay continuing for two centuries, in anything which during that time *still had to be used*; as England's ruined abbeys or castles—almost the only parallel example—had not. Our own knowledge of similar havoc during less than a tenth of the time makes it quite clear, however, that the picture has not been overdrawn. I have no doubt at all that in numbers of cases those portions of Roman roads which enjoyed natural drainage from traversing hilly country would be passable for traffic long after it had become extremely difficult to use those going through low and marshy ground. It would probably

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<sup>9</sup> F. S. Williams, *Our Iron Roads*, p. 114.



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be at the points I have indicated—where surface and ditch-levels were identical—that the road would first break down under the attempts to struggle across. Each rut in the gradually disintegrating surface would hasten decay in an accelerating ratio ; and a moment's reflection will show even an unpractised man how utterly useless a long stretch of excellent road may be, if a narrow gap renders it almost impossible to get on to it or off it again. Under such conditions, I believe the early English settlers would be glad in many places to break away from the marsh or depression and go round.

Dr Cunningham<sup>10</sup> wrote, many years ago :—

(In Gaul) . . . 'the Roman civilization had so utterly decayed that the soil had to be reclaimed again, by clearing the forest and jungle . . . ' But in England, . . . 'so soon as commerce developed, the old Roman routes of communication were ready prepared for the chapmen who began to traverse them, and Roman bricks lay ready to hand for the repair of Roman bridges and the construction of new towns where the Roman cities had stood . . . '

So far as physical forces are concerned, I cannot comprehend his distinction between the two countries. A vast mass of evidence tends to indicate a general physical resemblance ; and Britain was probably the wetter. Another (contemporary) statement about 'Roman roads which the English adopted and kept in repair',<sup>11</sup> will not, in my view, bear to be pushed farther than that the English would use them when they could, and had to do something to them in order to be able to use them. I do not consider the mere existence of a law—the famous *trinoda necessitas*—as any sort of historical proof that Roman roads and bridges were maintained in any reasonably practical engineering sense.

For I think it may be laid down as a sound general proposition, that the successful maintenance in any real, homogeneous sense, of any highly-perfected technical production such as was a Roman road, involving an advanced degree of engineering knowledge and large resources of labour, is virtually impossible except to those possessing similar skill and equal resources for its utilization. I have met with no evidence to indicate that the English settlers possessed either. Roads built like the great main Roman highways will undoubtedly stand up longer than a mere trail ; but when they do begin to give way, their

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<sup>10</sup> *Growth of Eng. Industry and Commerce*, 1910, I, 67 ; *ibid.* I, 59, 96-7. The modern conclusions appear to be almost the precise opposite : see R. G. Collingwood, *ANTIQUITY*, I, 117-19.

<sup>11</sup> Elton, *Origins Eng. Hist.*, p. 339.

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ruin will be the more utter and complete if there be but the trail-maker's resources wherewith to repair them.

This is not mere conjecture. Here in Alberta, following upon railway amalgamations, many miles of steel have been taken up along lines no longer considered necessary, owing to duplication or other reasons. The abandoned grades have largely been utilized as highways. It very speedily developed that the rough-and-ready methods which had served to keep 'dirt roads' in (comparatively) fair condition for years would be valueless on a gravelled highway; maintenance must imperatively follow along the same lines as the original construction. The most unimaginative, untravelled stay-at-home could readily conceive the futility of filling a 'hole' (*i.e.* a slight, travel-worn depression) in the Great North Road or the Watling Street, with a few 'scraper-loads' of soil or clay, as would be done on a dirt 'road'.

There is no lack of evidence, in my opinion, both for the (apparently rapid) decay of Roman bridges and for the diversion of routes, in part, from Roman roads. If Roman bridges as a whole had lasted well into the Anglo-Saxon era before disappearance, as phenomena which the English had seen in some plenty before their fall, should we not have had more English place-names of the 'Pontefract' type? (*ponte fracto*). The tenacity of names needs no labouring. There is a well-known place-name in this very field, running into scores of specimens. I refer to the countless something '-ford Bridges'. These (including many on 'Roman roads') go back for long centuries; and all the changes of the years have been unavailing to eliminate the now superfluous 'ford' name. Living recollection in some cases, and common sense, apart from the structure of the word, tell us that the *ford* is older than the *bridge*. Why then does not a similar harvest of 'Pontfords' or 'Brigford Bridges' preserve a memory of those (Latin) bridges which were older than the (English) fords? They adopted 'street' in plenty for an unfamiliar phenomenon; why not 'bridge'? Bridgford, Nottingham, and one or two others, *may* perpetuate this sequence; but they are very few.\*

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\* *Leland's Itinerary* mentions 73. But the annual volumes of the Eng. Place-Name Soc. have already yielded 152, from twelve counties only. I give the earliest date in each. Beds.—Hunts. 6 (1165); Bucks. 1 (1250); Devon 17 (1242); Essex 41 (12th cent.); Herts. 14 (1324); Northants 10 (1221); Surrey 20 (1140); Sussex 13 (1347); Warwick 16 (1225); Worcs. 5 (1229); E.R. Yorks. 7 (1066); N.R. Yorks. 2 (1230).

See editorial remarks *in re* Brushford (*brigeford*), Devon, Somerset, in *Devon* (Eng. P.N. Soc.), II, 361. There is Briggswath (*wath*=ford), N.R. Yorks. (*id.*) p. 119 (in Whitby).

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I consider that a distrust of Saxon engineering science being equal to the repair and maintenance of Roman masonry is justified by the extremely rude construction of many bridges in much later times. The most important in all medieval England, London Bridge itself, was of wood until 1176. Up to as late as *c.* 1650, timber bridges are stated to have been common, south of the Trent.<sup>12</sup> In the medieval period and later, there are numerous grants of timber for the repair of bridges; and incidental evidence reveals how rude some of them must have been. Sometimes they were mere logs or planks thrown across a stream. We find the abbot of Coggeshall (Essex) in 1307, refusing to maintain bridges on the ground that those whose upkeep devolved upon his predecessor were merely of that primitive character.<sup>13</sup> The well-known incident of the Earl of Hereford, speared from beneath at Boroughbridge in 1321—itsself fore-acted in a similar occurrence at Stamford Bridge in 1066—shows that the bridge must have been of rude construction, with wide cracks in the flooring. The periods are too late to be of much significance; but both places were on Roman roads.

In relation to the question of the unchanged alignments of ancient roads on the routes they now follow, as against possible diversions, the appeal to old maps, showing the same towns on the same roads as today, and the citation of historical references to the same effect, has apparently been thought a satisfactory, if not unimpeachable criterion. 'Ancient road' is a vague and elastic term. In most cases I believe such a claim might be conceded for *post*-Conquest highways; apart from some of those minor alterations like the Pastons made, or the actual shutting up of local roads for short distances in the later inclosure era. The 'Something-ford Bridge' argument clearly implies (and requires) this. But if the conception is to be indiscriminately pushed back to Roman times it behoves us to be cautious. The towns could not very well be moved; but their immobility would not necessarily preclude route-diversions at intermediate points, if occasion arose. We actually possess historical evidence of such in many localities. Coming, as it mainly does, from the older English topographers and antiquaries, it is additionally valuable; since the possibility cannot arise in their

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<sup>12</sup> Joan Parkes, *Travel in Eng. in the Seventeenth Century*, 1925 (with some interesting particulars on decay of ancient bridges), pp. 28-34. Leland (*Itinerary*) gives 117 of timber, 371 of stone, 222 not specified.

<sup>13</sup> Jusserand, *Wayfaring Life in Mid. Ages* (ed. 1909) pp. 63-70, 417-18.



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day of a Roman highway having been diverted to allow a railway to pass over it. Camden describes one :—

‘ More east, the Roman road leads strait from London to Verulam over Hampsted heath through Edgeworth and Ellestre<sup>14</sup> . . . When the Roman power ceased here and barbarism crept in during the confusion of the Saxon wars this road was like others long neglected till a little before the coming of the Normans, Leofstan, abbot of St. Albans restored it . . . He cut down the woods which reached from the edge of the Chilterns to London, particularly by the high road called Watling Street . . . But 300 years since, this road was in a manner deserted, and another opened by leave from the bishop of London through Highgate and Barnet<sup>15</sup> . . . ’

Any philosophic doubt concerning the foregoing would seem to be dispelled by old William Harrison’s relation concerning the Watling Street, near St. Albans, in 1531<sup>16</sup> :—

‘ . . . the course thereof was found by a man that digged for gravell where with to mend the high waie. It was at this place eightene foot broad, and about ten foot deepe, and stoned in the bottome . . . and peradventure also on the top : but these are gone, and the rest remaine equall in most places, and leuell with the fields . . . ’

Harrison further describes the Watling Street as ‘ still winding in and out ’ from near St. Albans to Caxton, Huntingdon, Stamford, Torksey, and onward. This can scarcely be dismissed as mental aberration ; for in one of the countless discussions on the meaning of *Watling* (now happily settled, may we hope<sup>17</sup>), Camden or his editor suggests the name is ‘ perhaps derived from its winding nature ( ? “ waddling ” ) ’ ; ‘ but it is certain that this does wind most of any of the four grand ways ’<sup>18</sup> . . . One does not unduly emphasize a modern holiday writer’s allusion to ‘ a sudden kink in the remarkable straightness of Watling Street ’ ; for it is no doubt taken for granted that the Northampton-Birmingham road *ipso facto* is ‘ Watling Street ’ of Roman fame. But there are allusions by scholars to other Roman roads which are not direct. And it may be noted that among those regarded as being so, the later tendency is to interpret this as a ‘ point to-point ’ alignment—whether *de novo* or as an ‘ ironing-out ’ of the minor irregularities in preceding tracts ; which may be considered as a

<sup>14</sup> Edgware, Elstree.

<sup>15</sup> Gough’s *Camden* (ed. 1789), I, 339–40 ; cf. Leland, *op. cit.* v, 151.

<sup>16</sup> W. Harrison, *Description of England* 1577, ed. F. J. Furnivall, 1877, III, 145.

<sup>17</sup> English Place-name Society, *Herts.*, pp. 7, 86–7 ; *Beds.* pp. 5–7.

<sup>18</sup> Gough’s *Camden*, I, LXXIV ; cf. Gough’s remarks *in re* Camulodunum (*ibid.* II, 56–57). He notes Watling Street ‘ running E and W ’ near Penkridge, Staffs. (*ibid.* II, 385).

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natural rebound from the over-emphasis on the *absolutely* straight Roman road of some writers—even late ones. We have also quite clear indications of 'Roman roads' where the more solid construction or foundation—in some recognizable form—encountered *lacunae* every now and then, either on straight, apparently homogeneous sections; or in a manner suggestive of diversions no longer readily perceptible. In other cases, the modern highway, after following for a distance the (supposed) Roman alignment, 'keeps straight on'; while the road of actual (former) Roman construction 'turns aside' toward some ancient objective. And yet in others, the ancient way, under some old local designation, is at one time following its time-honoured alignment through the heart of some historic English town; and again—bearing the same name—is far from the modern highroad of the district, across the fields.

It is extremely probable that that citizen of St. Albans, in 1531, knew where to look for his gravel; and the same circumstance may help to explain those countless other diggings in highways (or ex-highways), which seem otherwise so utterly foolish. For I doubt whether the most individualistic and irresponsible of men would select that hard, solidly-packed ground, except for something he believed he could not obtain elsewhere.<sup>19</sup> The cumulative effect of the foregoing evidence seems to be that the 'traditional' view of the uninterrupted use of Roman ways cannot stand. They were used where topographical, climatic, perhaps economic conditions favoured this; in other conditions, they were partly or wholly abandoned, or utilized as quarries, or even forgotten altogether; while the English settlers marked out new or 'substitution' routes to suit themselves, on the readily recognizable principles of a forest folk.

I am not disposed to belittle the importance and value of the topographical study of the English country-side. I regret that my own opportunities, during forty-five years' absence, have not been greater. Perhaps by reason of this, I may tend to exaggerate the difficulties which there confront the out-door student who lacks the immense facilities of aerial investigation. The factors of more intensive cultivation, the network of railways, drainage, the vast increase in the size and number of towns, the artificial alterations and modifications which these have occasioned, the miles of high walls around great houses which prevent

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<sup>19</sup> This was the successful defence of the miller of Aylesbury, 1499, for the death of an unfortunate traveller; cf. Norwich, 1507: A. S. Green, *Town Life in the Fifteenth Century* (2 vols. 1894), II, 31-2.

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examination of many of those very regions most likely to have preserved their physical characteristics with the least change, the hedge-rows which often intercept the view in level regions, and many other later features, seem to have so essentially altered the ancient appearance of the land, as to make its imaginative 'reconstruction' a rather difficult task. But Alberta can help us here.

Apart from the relatively few who appear to be congenitally and hopelessly lacking in any sense of location, it is astonishing how soon a town-bred stranger learns to find his way about in a new land. The 'eye for country' and its accompanying 'trail-instinct', appear to develop naturally. In the latter respect, particularly, we in Alberta had excellent tutors; for the few trails in the country had been broken out by masters in their art. Fortunately they were unhampered by the later fetters of the 'road allowance'. In open country, they sought the ridges and clung to them as long as possible; if not on the very 'comb', far enough up to ensure dry firm ground. In scrubby and even quite thickly wooded country, they reduced a preliminary clearing with the axe to an astonishing minimum. If there were anywhere near a thinner patch of timber through which pack-ponies, carts, or wagons might worm their way along, keeping a general direction very closely—as likewise do the winding English roads—but none the less twisting this way and that around big trees, thickets, bogs, or windfalls, those old woodsmen and trail-breakers might be trusted to find it, and with an absolute minimum of soft ground. It was not until the country became more thickly settled and fenced, confining us to the straight road allowances, that we really saw much of bad roads.

When a small creek or strip of marshy ground simply had to be crossed, the driver swung and picked the likeliest-looking place—the trail there being usually 'ten trails' (or more) wide; and when—or if—across, he swung back into the common track once again, which made for the higher land as speedily as possible.<sup>20</sup> And thanks to the dry intervening sections of 'contour' trail, our horses were in much fresher condition approaching these 'muskegs' (which, if really bad, we 'brushed' or 'corduroyed'); and we were seldom 'badly stuck'.

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<sup>20</sup> 'The roads (in Eng.) were much like an up-country trail at the present time in Alberta, or in the Great North West, where the traveller "breaks trail" as he goes along, avoiding the worst places by the simple expedient of going around them': H. S. Bennett, *The Pastons and their England*, 1922, p. 129. cf. Duignan ('Saltway'), *Worcs. Place-names*, 1905, p. 141. On Sept. 27, 1929, along the valley-road, Baslow to Bakewell (Derby), the ancient duplicated paths along the 'side-hill' were clearly visible.



## THE WINDING ROAD

Apropos of these trails, from 1899 to 1903 we experienced a cycle of five wet seasons.<sup>21</sup> The use of the fenced road-allowances was forced upon us by settlement ; yet very little grading or ditching had been done. In our black-soil scrublands, the absurd straight road which looks so impressive on a map, broke down under the strain. In numerous cases, the road allowances were abandoned to the farms adjoining them ; and winding ' contour ' roads were surveyed on the precise principles of the old trails, and permanently expropriated by the Dominion Government.

In many cases, the English winding roads reveal causes for their windings, essentially unaltered through the years, of a similar general character to the foregoing. Perhaps a small hollow in a field, which in pre-drainage days would be a ' pot-hole ' of oozy mire, dangerous perhaps to man and beast ; around which the road prudently skirts. A hillside wood, which probably enough from soil and situation may never have been aught else since England existed. Or the circuitous approach to a ford, where the direct ' attack ' might be too steep to get up (or even *down*), or might face some deep reach unsuitable for fording. I have seen ' ford Bridges ' in England where despite the later raised bridge—' causeway ', the long winding approach of the ' ford ' days has remained unaltered, to reveal its history. But there are also others, less plainly self-evident.

When the inevitable use of the road-allowance in the near future began to be clearly foreseen, it became our habit, when forced by the fencing up of some old trail to select a new route to our local market, to endeavour to utilize the still unfenced road-allowances as much as practicable. There were then no road-grading machines in the country, either horse or automotive power. We trusted entirely to traffic to wear our new trail smooth—it did not take very long on a main route—and we begrudged the labour of a new ' cross-country ' trail if its fruits were to be taken from us at a moment's notice. Many of these road-allowances ran through tall, thick scrub. We made no attempt at first to clear the entire width of 66 feet ; in many instances we could pass along entirely by winding from one side to the other, picking where the scrub thinned out, exactly as did the older trail-breakers ; and never attempting to take a heavy wagon through the centre of a large clump of willows, which would have had to be cut out for the purpose, and

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<sup>21</sup> I learned to swim in 1901, in a small ' lake ', eight feet deep in the centre ; out of which we hauled the hay, in full loads, in 1898.

## ANTIQUITY

under which was a soft, yielding 'leaf-mould' unable to sustain any weight. It very often happened that the soft, rich, black loam—the joy of the cultivator and the despair of the roadmaker—being shielded by the tall scrub and trees from the full rays of the sun, and badly cut up by the rains and the traffic, became almost impassable. In such conditions, a common expedient was to clear the wood-growth across the entire width of the road-allowance, and allow sun and winds free access to the surface; and unless the season was abnormally wet, we speedily had a dry firm road, generally much better than a 'graded' road which had destroyed the solid surface of sod and brought the clay subsoil to the top. The remarkable result for my present purpose is that the windings, which, while the great thickets that had occasioned them were still standing, appeared to be the very quintessence of selective skill and balanced trail-judgment, seemed the height of absurdity when there was no longer any visible reason for them; presenting the precise appearance afore-mentioned, of 'winding for the very sake of winding'.

We have here in a nutshell the life-history of the winding English road, along those countless expanses of level or gentle slope where it is evident no permanent physical feature remains to indicate a cause. Even in heavily-timbered countries trees do not invariably stand on the ground like a wall. The characteristic form of the common tree of medieval England, the oak, with its short stem, and low far-spread branches, seems to have been so uniformly pronounced as to give rise to a generic name not applied to other trees.<sup>22</sup> Whereas our Alberta trail-windings are rather minute and sudden, deflections around smaller trees or thickets having no wide overhang of shade, I believe that in countless cases the sweeping generous curves of the English roads would be found to correspond quite closely with the circumferential radius of some huge branching oak. Perhaps even travellers on horseback could not be sure of 'clearance' overhead beneath the central boughs. It seems perfectly certain that no loaded wain would attempt such a short cut, even if not burdened with a high load of hay or sheaves. For there would be a sodden, sunless, almost mossy surface, which nothing but long-continued drought could render

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<sup>22</sup> The 'brood oak' or 'brod ooke' in Coventry (1410, 1423, etc.) which gave its name to 'Brodewok' or Bradock Waste (*Coventry Leet Book*, I, 18, 46; II, 439, 440). The well-known tree-valuation in the *Laws of Ine*, 'by the number of swine which could stand beneath', points to wide-branching trees. See further notices, ANTIQUITY, x, 338.

## THE WINDING ROAD

fit to sustain a load ; with the additional risk of striking some huge radiating root, over which no team could lift a wheel. As against this, the curve around the outer ' rim ', even if the tree and its next neighbour almost touched, would at least get whatever sun there was.

So long as the English who (I believe) made them, ruled the land, it is not probable that there existed at any time among so conservative a race, much desire to ' iron out the kinks '. It is not difficult to reconstruct with strong probability the later conditions which would tend to settle them so firmly in their winding alignments that even the revolutionary era of Macadam wrought little change.

The ' technical ' requirements of the great Statute of Winchester (1285) are not original. In 1250, the woods on the highway between Coventry and Warwick were ordered to be cut down for a space of ' Six Acres in breadth ' (66 feet = one acre ; hence 396 feet<sup>23</sup>). The later law repeated this, making it applicable at large ; and failing obedience, compensation for injuries should fall upon the landlord whose non-compliance had furnished shelter upon his land to the evil-doers. We may—I think—assume a certain degree of compliance, under strong kings at least, with a law which entailed such disagreeable consequences on its violation. And the incidental physical benefits of obedience might attract some who disdained its obligations.

The first effect of the clearing of the undergrowth for a space of 400 feet would be similar to what I have described in the case of our Alberta roads. The sun and the winds would keep the way in far better condition than before. This would considerably reduce the need for ' alternative trails ', except in very bad spots ; and would tend to fix one particular track as *the* road. I believe the consequent result would be that the lord, finding himself under the necessity of keeping a certain portion of his land free from scrubby growth, would do what most of us would do under similar conditions—he would keep it cleared by the very effectual, the only permanently effectual method, of cultivating it ;<sup>24</sup> perhaps even the more readily, since pecuniary legal

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<sup>23</sup> In Dugdale ; cited by C. Holland, *Warwickshire*, 1908, p. 168 ; W. H. Hutton, *Highw. and Byw. in Shakespeare's Country*, p. 380.

<sup>24</sup> It may be urged that such crops, when well grown, could shelter robbers just as easily. Yet there apparently *were* such, perhaps of fair size : ' Ich haue an half-acre to eren by the hy-weye . . . ' (*Piers Plowman*, ed. Skeat, *C. passus*, ix 2). ' Half-acre ' = a small piece of ground (so, Skeat, *ibid.* ii, 106, note) ; but it has been noted in contradistinction, that a large number of people are set to work ' ploughing it ' : (*N. and Q.* 5 S. ix, 347). The diminutive might be used ironically, as often now.



## ANTIQUITY

consequences might fall upon himself, while the labour would devolve upon underlings. This would confine the roads with all their original sinuosities to the space they already occupied and no more. The road would be the boundary of the fields on either side. We may be quite sure that in any later Crown expropriations for the widening of highways, the centre of the road would be the *datum* from which the desired width would be taken, half on either side. The mutual jealousies of rival landowners would ensure that English conservatism could be trusted to do the rest.

## Donegal Survivals

by E. ESTYN EVANS

RECENT articles in *ANTIQUITY* have drawn attention to the rich sources of material for study in ethnology and archaeology which lie almost untapped in the dwellings of peasant Britain. For Ireland three papers by Åke Campbell<sup>1</sup> break new ground in a virgin field and increase the heavy debt which Irish scientific studies owe to Scandinavia; and the interest roused has been fostered by a short statement on the need for enquiry into house-types issued by Colonel R. G. Berry.<sup>2</sup> The Irish Folklore Commission has gathered much information on this and related topics, while a regional survey of the house-types of north Kerry, clearly inspired by Campbell's work, has lately appeared.<sup>3</sup> The participation of continental workers in this field is further illustrated in the 'Contributions to the study of the tangible material culture of the Gaeltacht' published by L. Mühlhausen.<sup>4</sup>

The familiar statement that Ireland is a storehouse of the past, preserving, it may be said, the secrets and the ethnological treasures of northwestern Europe, is substantiated by these enquiries. The regions of Ireland which have retained the Gaelic tongue—the remote western peninsulas—have naturally kept many other ancient culture elements, and it is to the Gaeltacht that the student first turns his attention. In the north of Ireland the culture-lag, already apparent in the northeast, increases towards the west: the centuries fall away as one approaches the Atlantic, and to journey from east to west is to travel into the past.

The district I am concerned with lies about the great quartzite cone of Errigal, between the barrier range of the Derryveagh Mountains and the Bloody Foreland. It is along this coast, from Tory Island southwards, that the most primitive types of sea-going curraghs are found—

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<sup>1</sup> 'Irish Fields and Houses', *Béaltoideas*, 1935, v, 57-74; 'Notes on the Irish House', *Folkliv*, 1937, I, 207-234; 1938, II, 173-96.

<sup>2</sup> 'Irish Long-houses'. *Irish Naturalists' Journal*, June 1938, 63-4.

<sup>3</sup> K. Danaher, *Journ. Roy. Soc. Ant. Ireland*. December 1938, 226-40.

<sup>4</sup> *Journ. Cork Hist. and Arch. Soc.* 1933, 66-71; 1934, 4-51.

## ANTIQUITY

the paddle curraghs—while the rowing-curraghs<sup>5</sup> also retain features which those of other coasts in western Ireland have lost. But the isolation is most marked inland, among the peat wastes where the wheel was almost unknown a generation ago. Here, under Errigal, are communities which might be called archaeological fossils, preserving the past and living on the past, dependent on the turf bogs not only for fuel, as in most parts of Ireland, but also, until recently, for all constructional timber in the form of bog-‘fir’ and -oak. One feels that the Bronze Age culture which was adapted to the margins of those living forests still survives, in essentials, on their ruins.

There can be little doubt that many of the cultural features to be described were at one time widely distributed in the north of Ireland. We may recall that in prehistoric times, as in the historic period, successive waves of culture reaching Ireland from overseas penetrated at various entries on the northeastern coast between Carlingford Lough and Lough Foyle. The present political boundary of Northern Ireland illustrates this, and also emphasizes the southwestward thrust to control the passage between Lough Erne and the Upper Lough. In the north of Ireland the dominant structural trend is from northeast to southwest, and this trend guided penetration and retarded infiltration into the remote northwest, which was thus late in receiving and late in losing new ways of life. The megalithic civilization of Donegal, for instance, is an impoverished and no doubt retarded reflection of the virile fore-court-cairn culture of the northeast. It is in Donegal that we should expect to find traces of the cultural heritage of ancient Ulster, both Celtic and pre-Celtic.

Among features which may well be pre-Celtic in origin is a system of openfield cultivation (rundale) which centuries of opposition from landowners have failed to destroy. I have described this survival elsewhere,<sup>6</sup> and need only draw attention here to the fact that, on the Donegal evidence, rundale cultivation was associated with nucleated settlement and that the scattering of the habitations with their long ‘strip farms’ was, in this part of Ireland, a process which took place mainly in the 19th century. Some writers on this topic have assumed or asserted that rural settlements in Ireland have always been of the *Einzelhof* type—single farmsteads surrounded by their enclosures. The

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<sup>5</sup> J. Hornell, *British Coracles and Irish Curraghs*; [a review of this book will be published in an early number of *ANTIQUITY*.—EDITOR]. Estyn Evans, ‘The rowing-curraghs of Sheephaven’, *Ulster Journ. of Archaeology* (1939), 28–31.

<sup>6</sup> ‘Some survivals of the Irish openfield system’, *Geography*, March 1939, 24–36.



## DONEGAL SURVIVALS

occurrence of ancient one- or two-field systems of communal cultivation<sup>7</sup> in many parts of western Europe and the Mediterranean supports the suggestion that its origins in Ireland are prehistoric and pre-Celtic. Another practice formerly common in Ireland and found in many upland regions in western Europe and the Mediterranean lands is pastoral transhumance. The movement of cattle and of most of the population from lowland villages to mountain shielings or 'booleys' survived into living memory in Donegal, and its influence may still be traced in many aspects of Irish rural life ; in the rights of common hill grazing frequently enjoyed by farmers, in the inadequacy of permanent dwellings which once had to serve for winter only, and perhaps especially in the attachment of the Irish people to the festival of Halloween, the season when the hill-folk returned, still marked by its family reunions and much feasting.

In the area under consideration several hamlets have escaped the disintegrating force of consolidation, or farm-'squaring'. The members of the community hold their cultivable land, which is unenclosed, in scattered strips or plots. In these hamlets and in the larger rundale villages formerly prevalent the dwellings are loosely gathered around the water supply (PLATE I). They may be roughly aligned along a road (cf. Teelin, southwest Donegal, PLATE II), but they are never strung end-to-end as in the numerous small market towns of the Irish countryside. Each dwelling has the air of ignoring the existence of its neighbours, and in the dense clusters of the 19th century new houses were evidently built where they could be squeezed in. Where there is free choice, shelter from the westerly gales appears to be the first consideration in the selection of a dwelling-site. I have heard it said that one method of choosing was to let the wind decide by throwing up a hat on a stormy day and noting its resting-place. The house, as a rule, turns either its back or its top gable (behind the hearth) to the west. A bedroom, behind the hearth, benefits from the warmth of the chimney-back. Although it is or has once been present in all the dwellings I have examined it does not appear to have been an integral part of the structure ; the original dwelling was in fact extended as family-increase made further accommodation desirable, and with a declining population the 'room' has now often been allowed to decay. The bedroom is never at the end opposite the chimney : it was considered unlucky to extend the house at this, the bottom, gable.

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<sup>7</sup> S. Harris, 'Some notes on field systems', *Sociological Review*, July 1928.

## ANTIQUITY

Some of the houses have been improved and enlarged in different ways in the last half-century, and many are now being replaced under the Government housing-subsidy scheme, which at the same time enforces the destruction of the old dwelling or its conversion into a farm building. Fortunately it is still possible to find a few examples of what must be regarded as the basic house-type, the constructional unit in its simplest form, a gabled rectangular building having hearth, bed and byre under the same thatched roof.

The custom of providing space for cattle under the family roof seems to have been prevalent over northwestern Europe. It occurs in areas of heavy rainfall where the emphasis is on dairy produce rather than on crops, and where easy access to the cattle in the storms of winter was necessary. The practice is certainly ancient in Ireland, and while many explanations and apologies are offered by different writers ('the cow keeps the house warm', 'it makes it easier to get a drop of milk', 'warmth increases the yield of milk', 'it helps to save the dung') it was tenacious tradition rather than poverty which determined the long survival of the custom.

The bed occupies a specially built recess near the hearth. The byre-end of the building is no longer used for cattle; it has generally been boarded off to serve as a dairy, store or bedroom. I have found only one house in the Errigal district, at Meenacreevagh, which is still inhabited and in its original condition (FIGS. 1, 2, 3, 6). An older dwelling nearby (FIG. 4), now a stable, is said to be nearly 200 years old. Most of the houses are more recent: it is in style, not in age, that they are old. Externally they are, if somewhat drab, characterized by a fine simplicity. 'Lacking nearly every architectural consciousness and at the same time every kind of imported building-material, the Irish peasant house never stands out in bold relief against its background, but melts into it even as a tree or a rock'.<sup>8</sup>

The names given to the two sizes of dwelling house recognized—the 'two-couple' and 'three-couple' house—indicate the paramount importance of the coupled rafters which support the roof. The wooden framework of the roof not only determines and limits the size of the room but is the chief pride of its owner. The country is almost bare of trees, and until lately all the roof timber was obtained from the bogs. The buried trunks of pines are located in winter by seeking frost-free patches (the distribution of dew may similarly be used as a guide in summer) and extracted after testing their condition with a probing rod

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<sup>8</sup> Campbell, *Folkliv*, *loc. cit.*, 222.

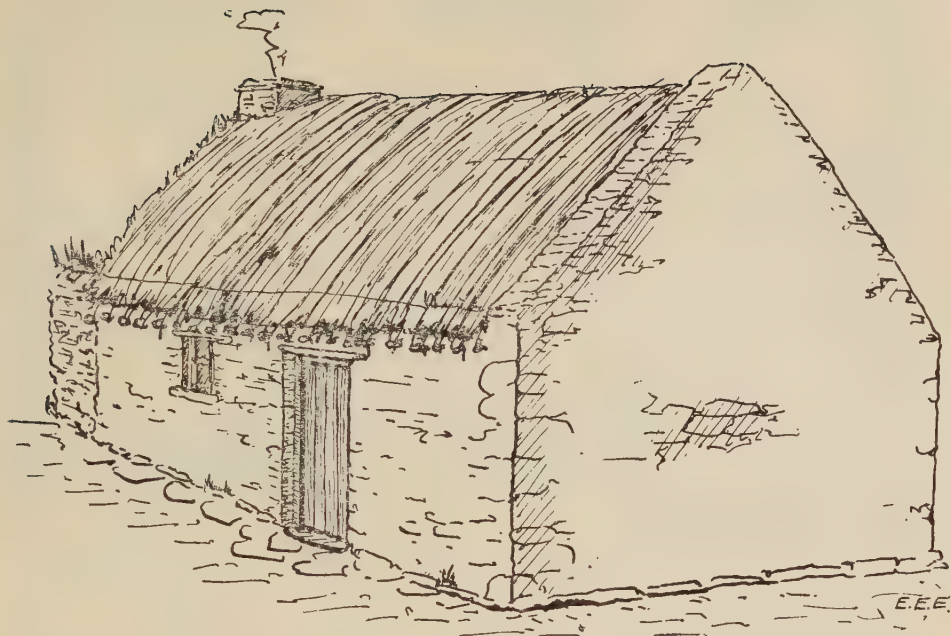


FIG. 1. BACK WALL AND BOTTOM GABLE OF KITCHEN-BYRE, MEENACREEVAGH (HOUSE A)



FIG. 2. FRONT ELEVATION OF KITCHEN-BYRE, MEENACREEVAGH (HOUSE A)  
Bed-recess on right, and drain by the door



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of iron. If a man contemplated marriage his chances were improved if he had his roof timber gathered before seeking a wife. The following account describes the erection of a house a century ago :—

‘ The custom on such occasions is for the person who has the work to be done to hire a fiddler, upon which engagement all the neighbours joyously assemble, and carry, in an incredibly short time, the stones and timber upon their backs to the site ; men, women, and children alternately dancing and working while daylight lasts, at the termination of which they adjourn to some dwelling where they finish the night, often prolonging the dance to dawn of day, and with little other entertainment but that which a fiddler or two affords ’.<sup>9</sup>

Much communal work is still done at such ‘ gatherings ’.

The approximate internal dimensions of the two-coupled house are 22 ft. by 12–13 ft., of the three-coupled 25 ft. by 13–14 ft., but the foot is not used as a unit of measurement. While the length of the dwelling could be increased by the addition of one or more rooms at the gable, its width was narrowly restricted by the size of the available roof timber, and experience of disaster probably inspired the current superstition that ‘ it is unlucky to widen a house ’. In order to house the tester bed and leave an open space around the hearth a small ‘ bed wing ’ is attached to one of the side walls, projecting some two feet externally (FIGS. 3, 4, 6) ; the first couple of the roof bears on the side wall alongside the bed opening. This projection is widely known in Donegal and may be seen in the adjacent counties, but does not appear to be found south of Galway. Campbell considers it a north European feature.<sup>10</sup> The wooden bed which fits into the recess measures 6 ft. by 3 ft. 6 ins. ; the straw mattress rests on cross bearers of bog-fir. The other roof couples spring from the walls on either side of the door, but the central pair is omitted in a two-couple dwelling. Two cross-beams secured by trenails tie the couples together. The couples do not meet at the ridge, which is thus rounded in a stream-lined curve to throw off the wind. This device, moreover, allows short beams to span a wider space, while preserving the steepness required by the heavy rainfall, than they could span if they were directly joined.

Long beams (purlins) usually seven in number rest against wooden pegs driven into the couples (FIG. 5), and the framework is completed by laying laths of split fir on the purlins. All the woodwork is heavier on the windward side of the roof and is made lighter on the sheltered

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<sup>9</sup> Lord George Hill, *Facts from Gweedore*, 5th ed. (1887), 41.

<sup>10</sup> Cf. the wall-beds formerly found in the Hebridean black houses and shielings. E. C. Curwen, *ANTIQUITY*, September 1938, 261–89.

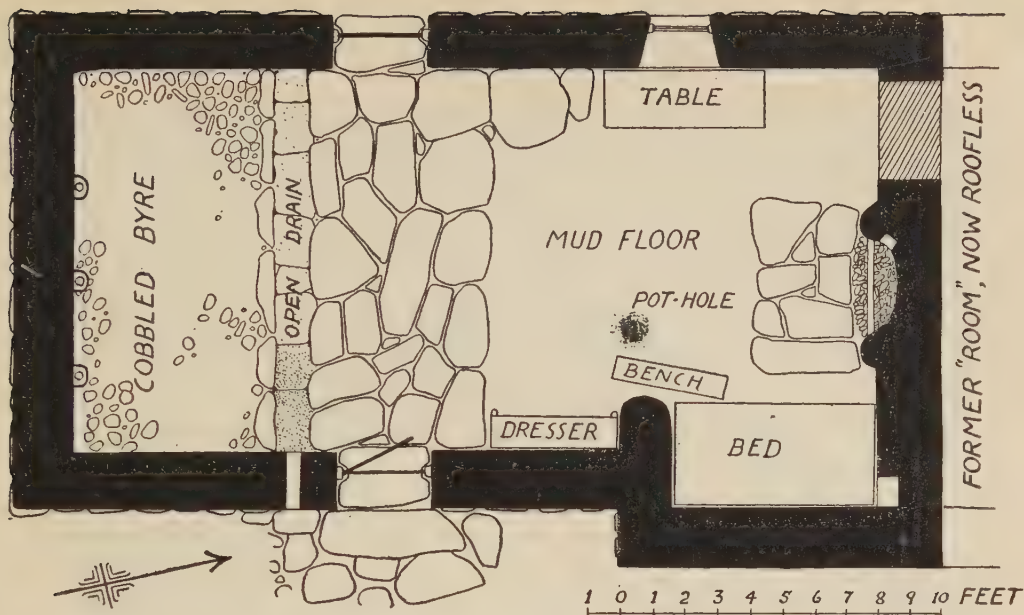


FIG. 3. PLAN OF HOUSE A, MEENACREEVAGH

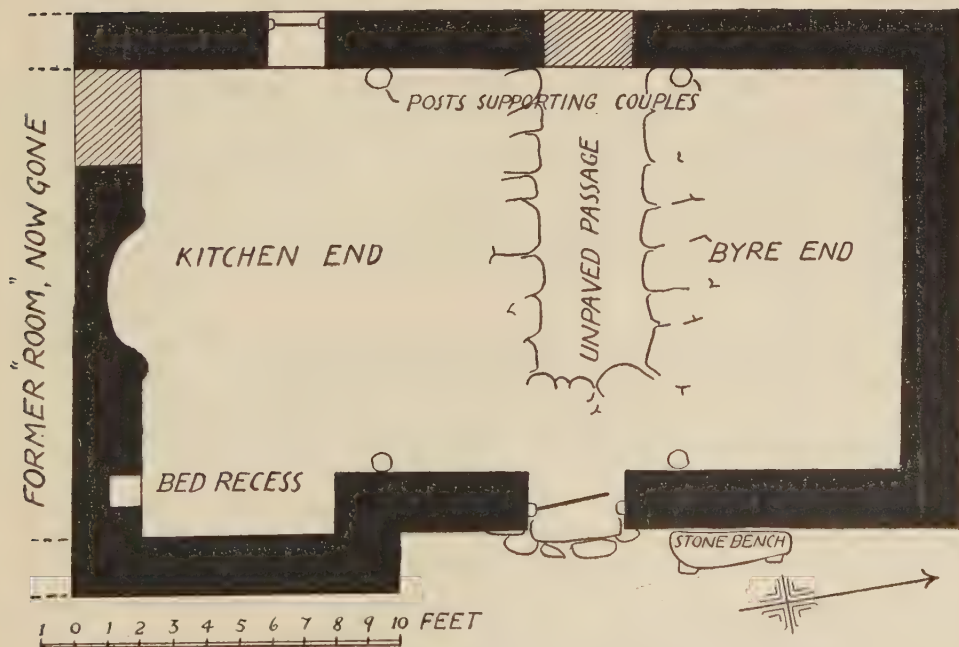


FIG. 4. PLAN OF HOUSE B, MEENACREEVAGH, NOW USED AS A STABLE

## ANTIQUITY

side and also towards the chimney, where the peat smoke is considered to prolong its life. It may be noted that the lower cross-beam of the couples is never less than some 9 ft. from the floor, giving ample room for the manifold activities carried on inside (FIG. 6).

Before the thatch is put on, the laths are covered with a layer of sods, carefully cut to the dimensions of a measuring-stick and cleaned of surplus earth, so that the rough matted roots can be pressed between the laths. They measure, so far as I was able to judge from the inside, some 6 ft. by 2 ft. by  $1\frac{1}{2}$  ins. thick. Three sods are placed on the windward slope of the roof and two on the lee; the upper sod on the windward side being bent over the ridge. The upper sods overlap the lower and each strip of sods overlaps the next, care being taken that the exposed edges face away from the prevailing wind-direction. It is the custom in county Tyrone to cut the turves up to 20 feet in length, so that a single strip will run from eave to ridge and bend over the top. This sod or 'scraw' is cut with a 'knee-plough', which is a short-handled breast-plough. A similar implement is still to be seen in the Antrim glens, and the Tyrone form was no novelty in 1800,<sup>11</sup> a fact which makes one doubt the claim (*Man*, July 1933, 116) that the breast-plough was an English invention of the 18th century.

The thatch, of 'sprit' or of flax specially grown for the purpose, is tied on with hay rope, now usually replaced by twine. In some districts the ropes are placed both horizontally and vertically in a close network, but in the mountain country around Errigal the ropes run over the ridge, the only horizontal ropes, often supplemented by laths, occurring just above the eaves. The ropes are tied to rows of stone pegs placed at the top of the side walls; to prevent them from sinking into the thatch a thin horizontal layer of thatching rush or flax is placed under the ropes.

It is worth noting that scollop thatching in northern Ireland appears to accompany the high-pitched roof while the hay rope method goes with the rounded ridge type.<sup>12</sup> In north Donegal the gables commonly rise above the thatch, for the roof-purlins rest on a ledge in the end walls. It would be difficult to secure the horizontal ropes. But elsewhere the thatch runs right over the gables, and this type usually has horizontal ropes tied to stone pegs in the gables. An interesting compromise results in the stepped gable (PLATE III), an artistic exaggeration

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<sup>11</sup> J. McEvoy, *Statistical Survey of County Tyrone* (1802), 51.

<sup>12</sup> Campbell, *Folkliu*, loc. cit., 228.



## DONEGAL SURVIVALS

of the profile of the gable, which allows the horizontal ropes to pass through the angles of the steps.

The walls of the older houses are cemented with mud, but have been pointed and faced with mortar and limewash within and without. The thickness is found to be 20 inches in all cases, the eaves rising to 6 or

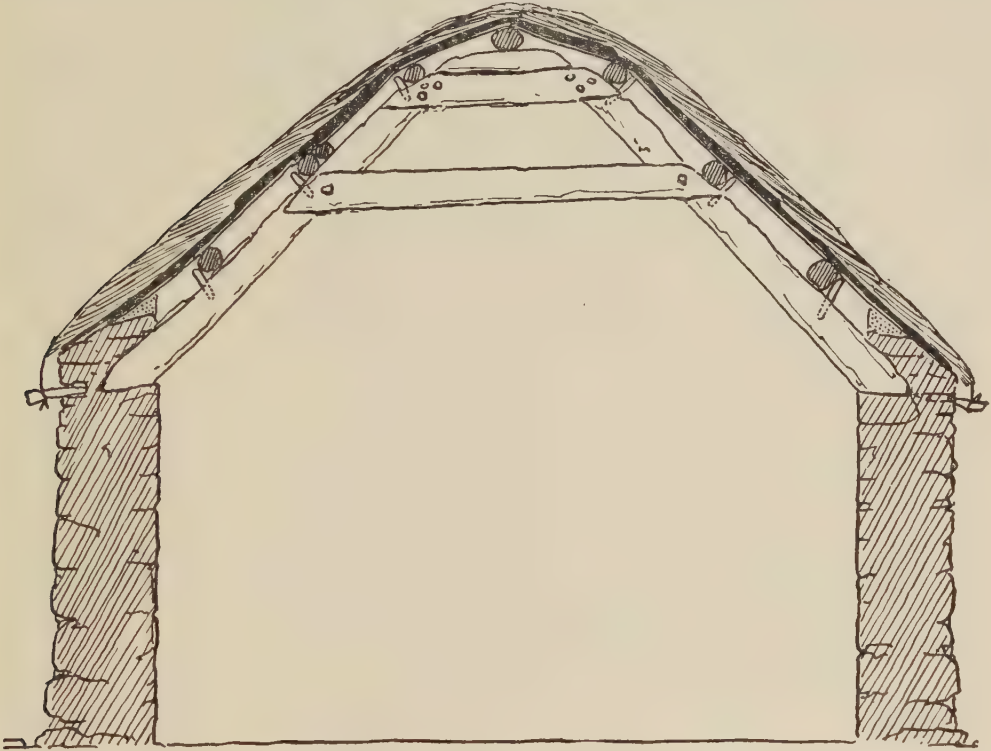


FIG. 5. CROSS-SECTION OF HOUSE IN ERRIGAL DISTRICT, DONEGAL, SHOWING ROOF CONSTRUCTION

7 ft. and the gable ends to 12 or 13 ft. Mud walls are not used in this area, nor are sod houses (PLATE IV) now to be found.

Most of the dwellings have, or once had, two doors facing each other, at back and front. Although the back door has gone out of use it is sometimes still in position, and in other cases the opening can be traced blocked up or converted into a window or, as I have seen it in county Louth, disguised as a recessed wall cupboard. Much superstition attaches to the back door, and long tradition seems to lie behind

## ANTIQUITY

it. One reason given for its disuse is that strangers, more frequent nowadays than formerly, might leave the house by a different door from the one which they entered and so take the luck of the house with them. It is clear, however, that the back door has outlived its functions, which were connected with wind protection and smoke disposal and also with the care of the animals, as in the Welsh long houses.<sup>13</sup> Campbell records that in parts of the west of Ireland the cattle are still milked in the house, each animal entering by the front door and leaving by the back, but that this is done in summer only,<sup>14</sup> a relic, perhaps, of methods once employed on the hill pastures at that season. In Donegal corn was sometimes winnowed between the open doors with the aid of a shallow circular skin tray. The distribution of the 'opposite doors' tradition suggests that it is an old west and south European device. Climatic conditions along the Atlantic fringe of Europe may have facilitated a northward spread, but it would be rash to make cultural correlations without archaeological support, and without knowing the distribution of the trait in the rest of Europe. It is found in southern Scandinavia.

In the inhabited single-roomed house referred to (FIG. 3) a paved strip  $5\frac{1}{2}$  feet in width connects the two doors. To the left, as one enters by the front door, is the disused byre, to the right the kitchen with its hearth and bed. The byre has a cobbled floor and is separated from the paved walk by an open stone drain, deepening towards the front door where a square hole in the wall opens on to the sloping 'street'. The dung was allowed to accumulate as in the Hebridean black houses, 'some houses having within its walls from one to thirty cwts. of dung, others having from ten to fifteen tons weight of dung, and only cleared out once a year'.<sup>15</sup> The front door, but not the back, is supplemented by an external half door which is kept shut while the open inner door admits light and air (there is no window on this side of the house). In the byre there is room for four beasts; they were tied at the bottom gable, where three perforated schist slabs built into the wall carried vertical poles separating the stalls. The widest stall stabled the horse, against the back wall, and a small wall-recess conveniently placed above the back door housed the horse brush and comb. Above the byre is a small open loft reached by a movable ladder, now used as a store but originally serving as a barn. It would hold sufficient straw and oats to

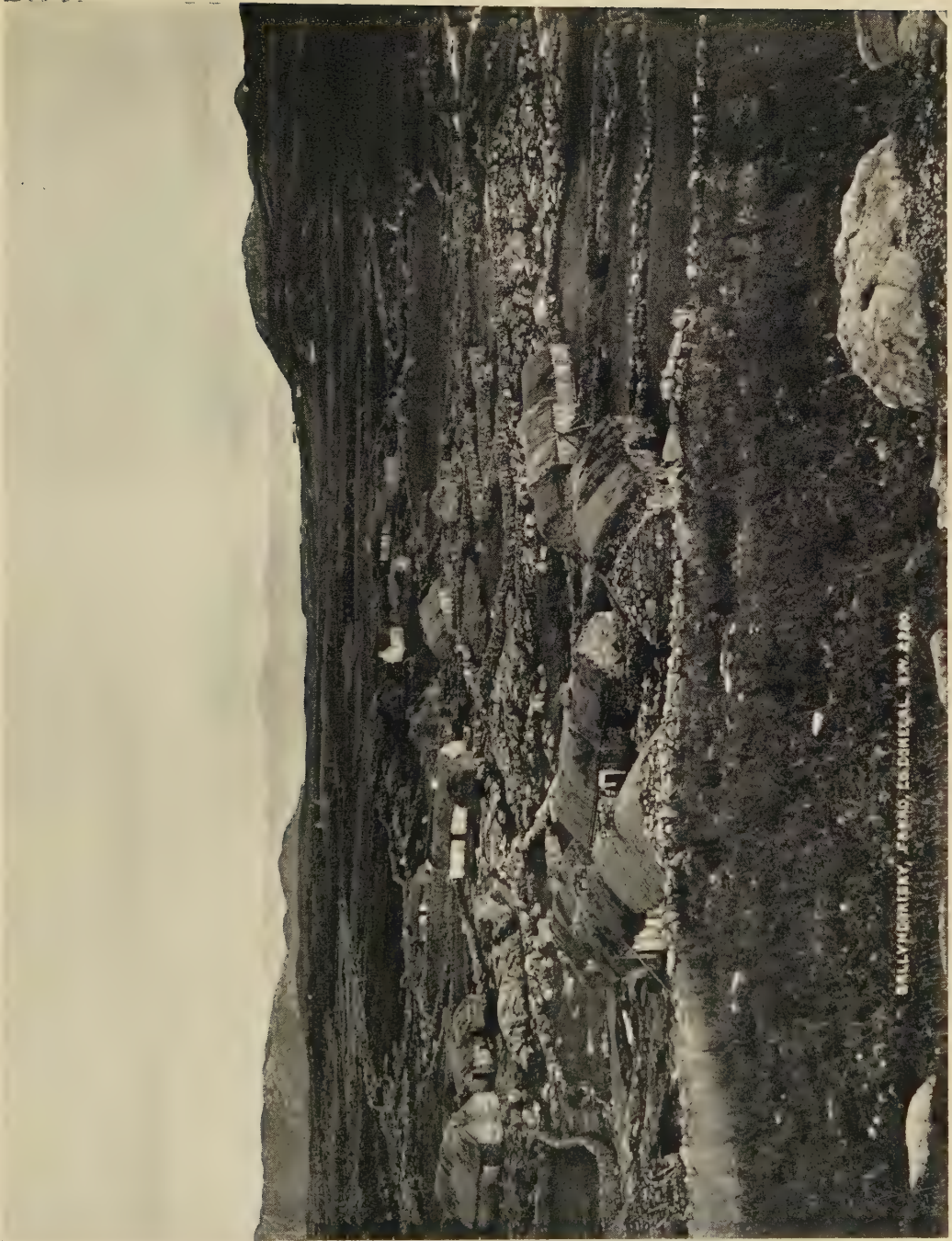
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<sup>13</sup> I. C. Peate, *ANTIQUITY*, December 1936, 448-59.

<sup>14</sup> Campbell, *Béalaidias*, v, 70.

<sup>15</sup> Lord George Hill, *loc. cit.*, 17.

PLATE I



A LOOSE HOUSE-CLUSTER—A RELIC OF RUNDLE CULTIVATION, BALLYHOORISKY, FANNAGH, CO. DONEGAL (see p. 209)

*Ph. R. J. Welch*



PLATE II



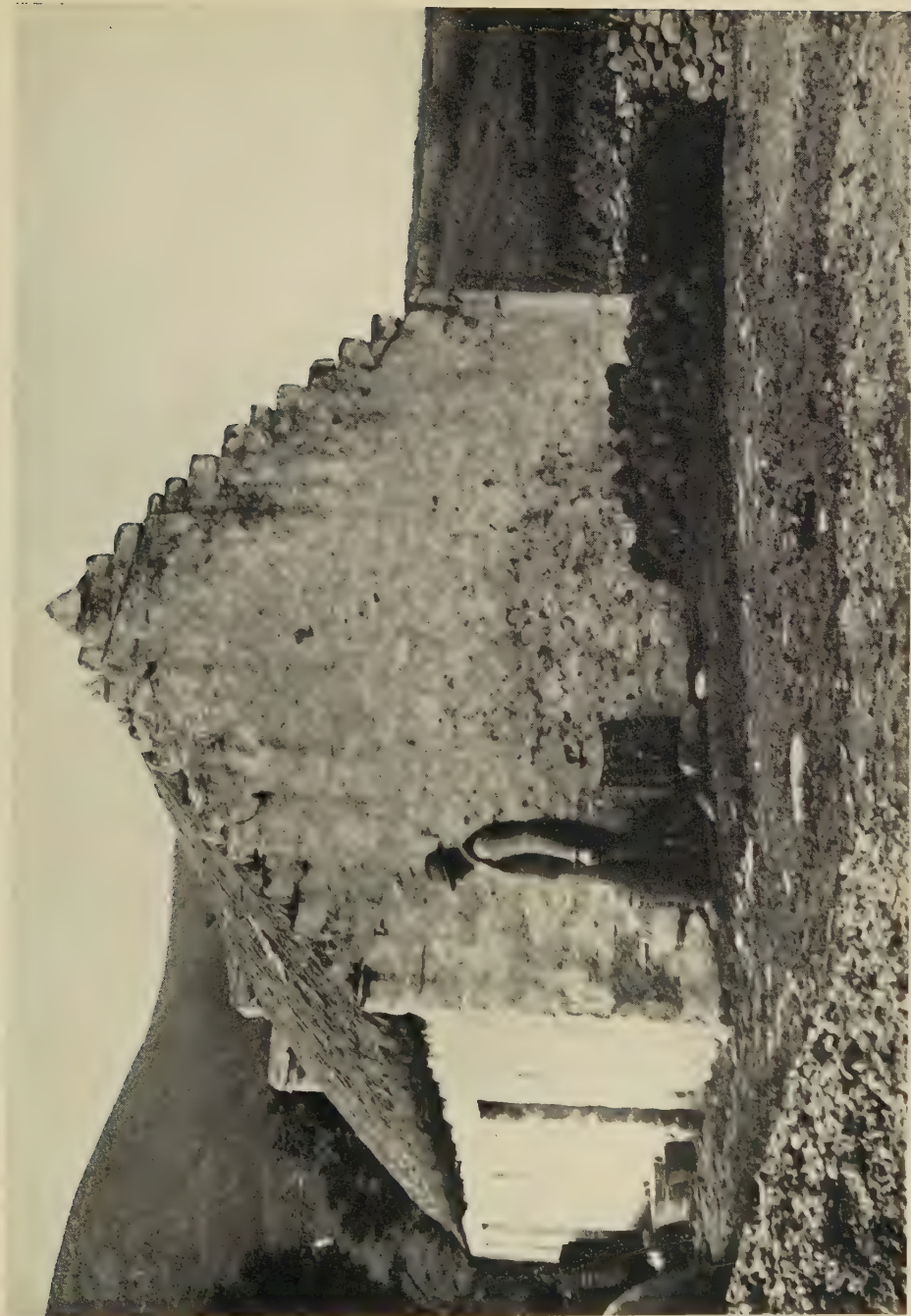
TEELIN, CLONINGAL, CO. WICK

HOUSE-CLUSTER, TEELIN, CO. DONEGAL (*see* p. 209)

Note the thatched chimneys and the network of ropes with stone pegs at eaves and gables

*Ph. R. J. Welch*

PLATE III



STEPPED GABLE, MALLARANY, CO. MAYO (*see* p. 214)  
*Ph.* J. M. Mogeey



PLATE IV



MODERN TURF-CABIN, MAGILLIGAN, LONDONDERRY (see p. 215)

*Ph. R. J. Welch*



## DONEGAL SURVIVALS

last for a fortnight or so, fresh supplies being brought from the stacks in the haggard. The oats would be thrashed with the flail on the

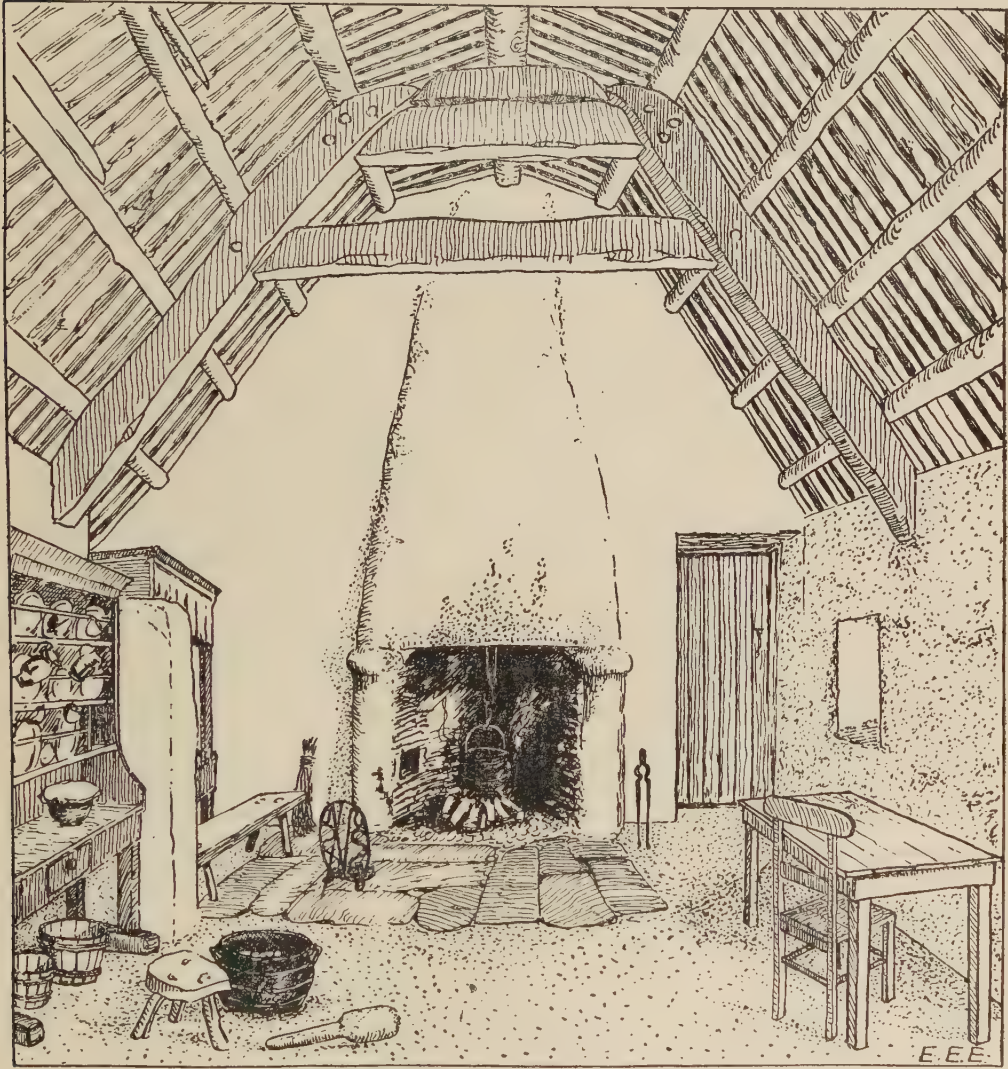


FIG. 6. HEARTH-END OF KITCHEN-BYRE, ERRIGAL, CO. DONEGAL

earthen floor of the kitchen or in the open air, and afterwards kiln-dried and ground in querns. A century ago each settlement had its kiln ;

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they have gone out of use with the decline of the oatcake, nor are querns now seen. The flail is still in general use, and as it is swung to the side of the body it requires little space and may be seen doing its work in the kitchen. An oatcake baking-rest is shown in FIG. 6.

To the right of the front door the earthen floor extends to the paved area around the fire. In it, opposite the small window, is a hole where the large iron pot rests while the potatoes are pounded with a wooden beetle. In paved kitchens a board set flush with the flags answers the same purpose. The wall-bed in its recess is also protected by a small projecting wall 5 ft. 9 ins. high. In the house I am describing a wooden beam resting on this wall crossed the room and served as a roost for hens. Between the small bed-wall and the front door is the dresser, an indispensable piece of furniture which always has its traditional position in Irish peasant houses, that position varying with the house-type. Under the dresser and in the space between it and the door are kept the dairying utensils—the small upright churn, butter tubs and crocks. The churn and tubs, like the wooden milking vessels and piggins still occasionally seen, are made of staves of bog-fir bound, in the older examples, with split willow bands. These relics of a 'forest-culture' deserve study. They have no lids, but are sometimes covered with prepared stone discs of schist.<sup>16</sup> Such discs are known from the Irish sandhill settlements and from burials of the Bronze Age. This 'stone age' device has its advantages; when used for covering milk the lids keep the liquid cool and are not easily moved by cats.

A small table lies against the wall under the window; it is invariably of imported deal and must be regarded as a fairly recent innovation. 'It never attracts the social activities of the house, and there are no ceremonies connected with the places at the table, as in countries where the table is the predominating social and family-centre'.<sup>17</sup> In Donegal there are dwellings where the table is missing, a shallow potato-basket taking its place at mealtime.

Tradition and custom point to the importance of the hearth as the focus of family life. The open hearth helps to make the tradition of hospitality, associated with the pastoral life, a very real thing, and its relation to the 'ovenless thin-bread culture' of Atlantic Europe and to many other elements of rural culture, has been discussed by Erixon

<sup>16</sup> Cf. A. Mitchell, *The Past in the Present* (1880), 60, fig. 39, for examples from Lewis and Shetland.

<sup>17</sup> Campbell, *Folkliv*, loc. cit., 234.

## DONEGAL SURVIVALS

(‘ West European Connections and Culture Relations ’, *Folkliv* 1938, II, 137-172). The thin (griddle) bread culture is also linked with the cultivation of oats, ‘ which must be regarded as a specific Atlantic plant ’. This method of baking has assimilated not only wheat and barley but also maize and even the unpromising potato (Irish ‘ slim-bread ’). The Donegal chimneys do not show the built-in stone seats and other developments which in some parts of Ireland incorporate the social tradition in the architecture of the hearth ; they are relatively simple, and there are signs that the chimney is a late addition or accretion. A landlord’s demands for ‘ proper chimneys ’ and ‘ regular funnels for all the fireplaces ’ made about 1850 shows that these conditions were often absent at that time.<sup>18</sup> Where the pot-chain remains in use (the iron ‘ crane ’ is taking its place) it is common for its suspension beam to cross the chimney near the top. Enquiry failed to elicit a satisfactory explanation of this, and I suggest that it perpetuates the pre-chimney period when the pot was hung, as is still the custom in the black houses, from one of the roof timbers. The fire would then have stood out a little way from the gable wall, where it often remains in those houses of the east and south of Ireland which have the fireplace cut off by side walls from the living room (Campbell’s ‘ house with fireplace partition ’).

The turf fire burns at floor level and is never allowed to go out so long as there is turf to burn. The fireplace is floored with small cobble stones from stream-side or seashore. In the side of the chimney recess is a hole or keeping-place in which the man’s pipe is kept. A larger wall-hole behind the bed-head is used for the women’s trinkets. There may be other ‘ keeping-holes ’ in the gable wall and there is one, as we have seen, above the back door. We recall the ‘ ambries ’ discovered at Skara Brae,<sup>19</sup> and may remember further that each hut was found to have its stone ‘ dresser ’. It was probably the coming of the built chimney, together with the provision of separate cow-byres, which reacted to make the back door of the kitchen-byre no longer a necessity. In the absence of a chimney the two doors would be used to control the smoke ; where the half doors were also manipulated for this purpose

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<sup>18</sup> Lord George Hill, *loc. cit.* Cf. his description of certain Donegal houses in 1838. ‘ Four walls, built of large rough stones (sometimes they are merely sods), put together without mortar ; no chimney, a front and back door (a contrivance or arrangement for taking advantage of the wind) a small aperture in the wall, to be called, in courtesy, a window, but having no glass in it, a dried sheep skin being its substitute ’.

<sup>19</sup> V. G. Childe, *Skara Brae* (1931).



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the housewife had at her command, as Campbell observes, an elaborate 'draught-machinery'.

Even the humblest dwellings have or have had a bedroom behind the hearth-gable, entered from the living room by a door on the window side of the chimney. Such houses have the chimney near the centre of the roof, but I have stated above that the single room dwelling is the primary unit of construction, and the resemblance to a 'central-chimney' house is superficial. Before leaving the house reference may be made to the custom of keeping three smooth stones on the sill of the window, outside, 'for luck'. I have found prehistoric hammer-stones so employed.

What may be another prehistoric survival is the underground dwelling I was shown, an 'earth house' excavated in a knoll of rotten schist within 250 yards of the house I have described above. It differs in construction from the dry-stone-built souterrains of prehistoric Ireland, but like many of these it has two compartments, pointed out to me by an old man who had slept there when a boy, 'room' (*i.e.* bedroom) and 'kitchen', the latter provided with a smoke-hole leading to the surface. Each room measures some 9 ft. by 6 ft., but the entrance has collapsed. This 'hide' is said to have been made about 150 years ago by the peasants, whose illicit whiskey distillation often brought them pursuers.

Another relic is the corn-drying kiln, formerly indispensable but now very rarely seen in use. They resembled small lime kilns, about 5 ft. high, the bowl-shaped interior having a diameter of 6 ft. at the mouth and 4 ft. at the bottom, and the surrounding wall narrowing from 3 ft. at the base to 2 ft. at the top. The interior was pointed with mortar, and from the bottom a flue 12 inches square led out on the windward side. A two-foot layer of well-dried turf was placed in the kiln and lit with a live turf from the hearth fire. A layer of dry turf mould was added, and when the whole had been glowing for some time the flue was closed and a hurdle or frame of bog oak placed over the mouth of the kiln. On this were placed a thin layer of straw and a linen sheet—coarse linen for household purposes was formerly spun and woven locally—and the oats spread on the sheet and turned from time to time by hand. The dried corn was ground forthwith, the quern being placed on the linen sheet spread on the ground; the oatmeal was stored in a wooden chest.

Curwen considers corn-drying kilns to have been a product of Roman culture in western Europe and Crawford shows that their use

## DONEGAL SURVIVALS

in Western Britain goes back at least to the 6th century A.D.<sup>20</sup> They seem to have been widely used in Ulster down into the 19th century, but I have seen surviving examples only in Donegal and on Rathlin Island.

We have seen that there is no special accommodation for dairy work or even for dairy products in the old houses we have described. If this seems strange in an economy so closely bound up with cattle it should be remembered that in former times much of the milking and butter-making took place in special summer shielings, or booleys, among the hill pastures. In the Errigal district the booleys were described to me as square, some 10 ft. by 10 ft., built of dry stone or sods (see PLATE IV), and measuring from 5 to 7 ft. at the eaves and 8 to 10 ft. at the gables. There were no couples, the purlins, three on each side with a ridge-pole at the top, stretching from gable to gable. Light branches were placed on the purlins and sods and thatch added. Heather was the customary thatching material, and it was secured by ropes of twisted fir fibre, about 20 inches apart, weighted with stones tied to the ends.<sup>21</sup> The gables of the booley faced east and west; at the west end was the hearth with a hole in the roof above it; but the fire was made outside except in very wet weather. The only door was at the eastern end of one of the side-walls: it had no jambs and was closed at night by a door of woven sally rods or gorse, leaning against the opening.

In many hill-districts in Ireland the foundations of ruined booleys can be traced but until some have been excavated nothing can be said about their construction. It seems likely that stone beehive huts were used in Ireland as in the Hebrides, but this form of architecture survived most clearly in the 'sweat houses' which, though no longer put into service, are fairly common in some counties.<sup>22</sup>

Lord George Hill describes a form of transhumance which included movement to adjacent islands:—

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<sup>20</sup> ANTIQUITY, September 1938, 289.

<sup>21</sup> This device, still widely employed for holding down haycocks, would seem to be ancestral to the present method of plugging the stones in the wall. An alternative improvement on the 'hanging stones' is found in the practice of letting the stones rest on the thatch just above the eave, as in Connaught.

<sup>22</sup> Cf. P. Richardson, 'Sweathouses in County Cavan'. *Ulster Journ. of Archaeology*, January 1939, 32-5. In parts of Mayo and Kerry beehive huts are still used as milk houses and for storing turf. Cf. Campbell, *Folklore* 1938, II, 173-76. In County Louth they are in use as pig-styes.

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‘ It often happens that a man has three dwellings—one in the mountains, another upon the shore, and the third upon an island, he and his family flitting from one to another of these habitations. This change usually takes place upon a fixed day, the junior branches of the family generally perform the land journey on the top of the household goods, with which the pony may often be seen so loaded, and at the same time so obscured, that little more than the head can be observed ; and thus the chair or two, the creels and the iron pot, the piggin . . . creep along the roads. The little churn is slung on one side of the animal, into which the youngest child is often thrust ’.<sup>23</sup>

Many other ancient customs still survive or have survived into living memory in the Donegal Gaeltacht. Among them we may notice the practices of burning the corn in the ear, and of harrowing by the horse’s tail, the use of the wooden plough and wooden-toothed harrows. A host of superstitious practices, notably in connexion with the seasonal festivals of May and November, the beginning and end of the summer half-year, are not yet dead. If an Irish folk-museum on Scandinavian lines is a dream for the future we must be grateful for the brilliant work of the Irish Folklore Commission in rescuing from oblivion the folk culture as well as the legendary lore of the Irish countryside. This scheme clearly requires the cooperation of Northern Ireland, and an attempt is at last being made to organize the collection of material in the six counties. The interpretation of what Mahr has called ‘ rural sociology ’ is a task which must ignore political frontiers : fortunately the happy cooperation between Dublin and Belfast in the field of prehistoric archaeology augurs well for the future of related researches into the Irish past.

For assistance in the measuring of houses and general field work I am indebted to several students of Queen’s University, Belfast, who spent some time with me in Donegal, and particularly to Miss E. F. Barendt and Mr Angus MacDonald. I am greatly indebted to Mr Patrick Ferry and to Mr Patrick McGuire, both Gaelic speakers, for much information which would otherwise have been inaccessible to me. The photographs by the late R. J. Welch are reproduced by kind permission of the Welch Trustees.

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<sup>23</sup> Lord George Hill, *loc. cit.*, 24. Finds of ‘ bog-butter ’ hint at an old method of storing dairy-produce.



# Avebury

Summary of Excavations, 1937 and 1938

by ALEXANDER KEILLER\*

## NORTHWEST SECTOR

THE reasons for selecting the northwest sector for the beginning of the excavations within the circles of Avebury, scheduled to last for at least a decade, by the Morven Institute of Archaeological Research (with the permission and cordial co-operation of H.M. Office of Works) was twofold. First, the conditions of indescribable squalor and neglect prevailing over most of the area of this section surpassed, if comparison is possible, those existing in any other part of the circle; indeed the tangle of rusty pig-wire, the accumulations, to a depth of nearly three feet, of old tins and broken bottles, around two of the standing stones, to say nothing of the refuse-heaps which filled part of the ditch almost flush with its edges, contributed ungenerously towards rendering the once majestic site of Avebury what it has been for centuries, the outstanding archaeological disgrace of Britain. Secondly, the presence of a veritable jungle of trees and undergrowth not only perpetually menaced the safety of this part of the monument, but had already done damage to the preservation of the all-important features below ground-level. Protests lodged in the recent past by those who had the welfare of the monument at heart had proved unavailing, and it was not until the eastern part of the sector passed by purchase into the writer's ownership that the work of preservation, which must, at least in the case of Avebury, always be regarded as of so much more importance than that even of excavation itself, could be begun. The scrub and brushwood were removed, as were privet bushes deliberately planted against the stones. The trees, almost without exception rotten to the core and actually growing on the monument, were cut down. The roots in the vicinity of the stones were laboriously grubbed up by hand, while those on the bank and in the ditch were blown up, gelignite being employed in place of any other explosive in order to avoid damage to the subsoil. That the work was undertaken none too soon, indeed in some cases unavoidably too late, was well exemplified when Stone 3, one of the four largest remaining stones in

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\* See PLATE I, facing p. 232. My thanks are expressed to Major Allen for permitting the use of this air-photograph.

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the Outer Circle, was excavated to its base, and it was found that tree roots had already forced it 1.75 feet out of the perpendicular, while lesser roots had penetrated into cracks in the sarsen and had split large blocks off the parent stone. If the excavations had borne no other result they would at least have confirmed what every archaeologist knows, that the presence of trees is wholly incompatible with the preservation of an ancient monument. Unhappily it may be regarded as a certainty that the northwest sector will not represent, during the excavations at Avebury, the only example of the truth of this dictum.

So far as the northwest sector was concerned no work of an archaeological nature had been recorded, save for a single unproductive cutting into the bank near the northeastern extremity by W. Cunnington and A. C. Smith<sup>1</sup> in 1865. For evidence concerning the number of stones existing at various dates in historical times recourse must be had to the surveys of Smith and Lukis<sup>2</sup> (1882), Crocker on behalf of Sir Richard Colt Hoare<sup>3</sup> (1812), Stukeley<sup>4</sup> (1724), and Aubrey<sup>5</sup> (1663).

At the beginning of the excavations four stones\* (1, 3, 14 and 15) were still standing, while portions of four more (6, 7, 12 and 13) could be distinguished covered by a medieval field-boundary. This consisted of a low turf-covered dry stone wall connecting many of the stones, whether standing or fallen, and forming, as it transpired, the southern edge of a cart-track running westwards and then southwards from the main Swindon-Avebury road.

The presence of this field-boundary had precluded Smith from carrying out his investigations in 1881, which elsewhere in the Circle had consisted of probing, and in some cases of subsequent partial excavation undertaken in an endeavour to identify the existence both of buried stones and also the position of stone-holes. His survey, however, although showing the same standing stones and the same quantity

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<sup>1</sup> Revd. A. C. Smith, *British and Roman Antiquities of the North Wiltshire Downs*, 1885, p. 143.

<sup>2</sup> *ibid.* p. 140, plate v.

<sup>3</sup> Sir Richard Colt Hoare, *History of Ancient Wiltshire*, 1821, vol. II, plate XIII.

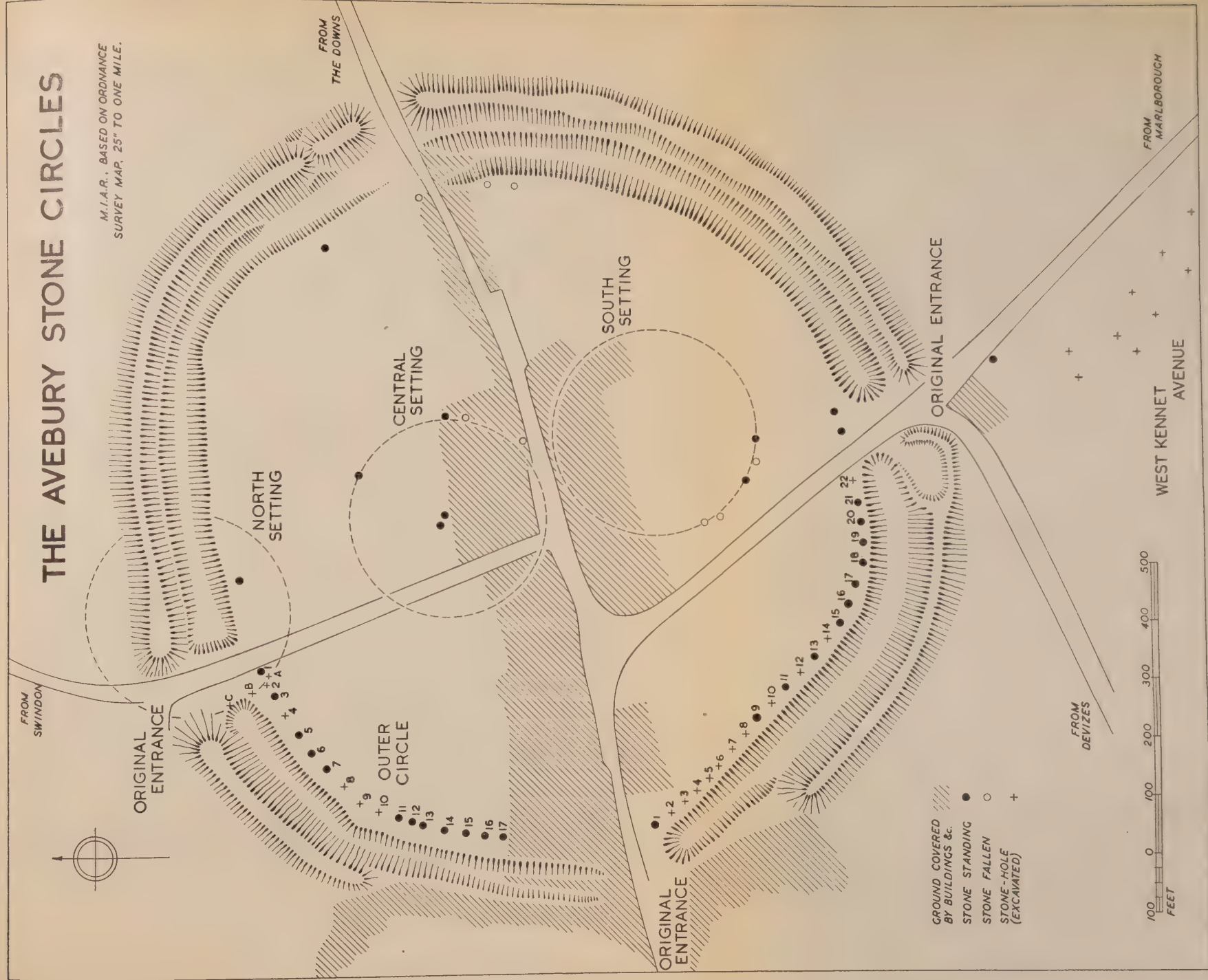
<sup>4</sup> Dr William Stukeley, *Abury Described*, 1743, Tab. I, frontispiece.

<sup>5</sup> John Aubrey, *Monumenta Britannica* (Bodleian Library, Oxford); plan made 1663; facsimile of plan in *Wilts. Arch. Mag.*, 1862, VII, 224.

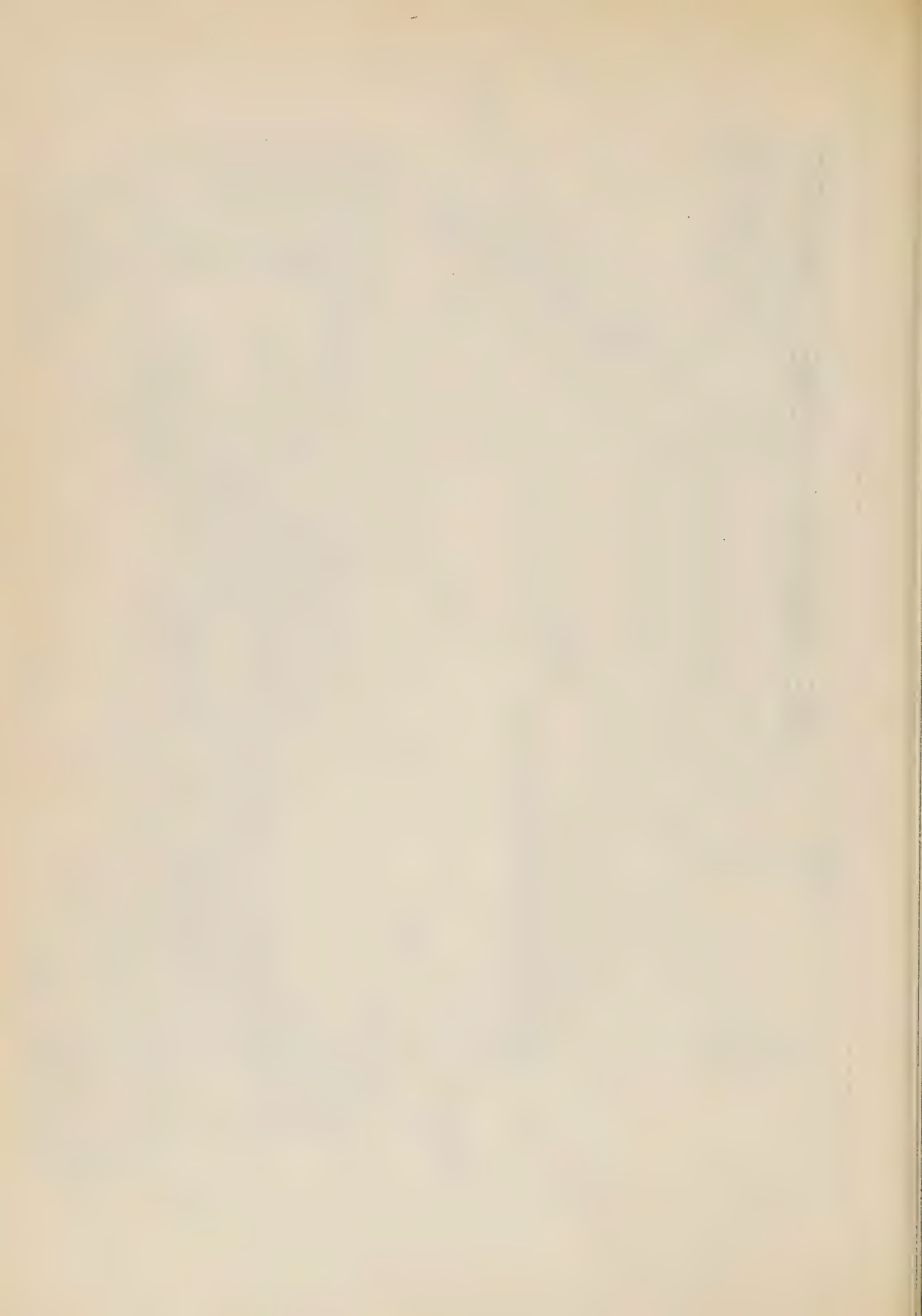
\* The system of numeration of stones and stone-holes (or sockets within which stones previously stood) adopted by the Morven Institute in the northwest sector was to allot numbers consecutively in an anti-clockwise direction, Stone no. 1 being the standing megalith immediately to the west of the Swindon-Avebury road.

# THE AVEBURY STONE CIRCLES

M.I.A.R., BASED ON ORDNANCE  
SURVEY MAP, 25" TO ONE MILE.







## AVEBURY

of fallen ones, indicates the latter as representing nos. 5, 6, 11 and 12. The survey by Crocker, carried out for Sir Richard Colt Hoare, shows the above standing stones and six fallen (5, 6, 7, 11, 12 and 13). The plan by Stukeley as usual gives in this regard the fullest historical information. In his time ten stones were standing (1, 2, 3, 4, 8, 9, 10, 14, 15 and 18), while seven were fallen (5, 6, 7, 12, 13, 20 and 21) the last named being immediately to the north of the village street dividing the northwest and southwest sectors. At a point equidistant (96 feet) from Stones 12 and 14 Stukeley marked upon his plan within the area a fallen stone. Excavations carried out during 1937 proved conclusively that no stone had ever stood here or in the immediate vicinity. It is possible that Stukeley was misled in this regard either by the presence of a large natural field-sarsen introduced for building or other purposes, or by part of a destroyed megalith which had been abandoned at this spot. Aubrey marked seven stones, all of which can be identified with a certainty not always possible where his plan of Avebury is concerned. These represent Stones 1, 2, 3, 4, 14, 15 and 18.

During the excavations of 1937 six stones (5, 6, 7, 11, 12 and 13) were recovered from under the field-boundary, to which reference has been made above, and these were re-erected in their original stone-holes. Stones 5 and 6 had been felled apparently at the time of the formation of the boundary bank and had been broken transversely. Between, and on either side of them, the wall was found to have been composed not of natural field-sarsens but of pieces of broken megaliths. In the present year (1939) a system, devised during the previous season and employed in the southwest sector, was utilized here, consisting of taking plaster casts of all fractured surfaces in an endeavour to reconstruct as much of the broken stones as possible. Many of the fragments in the wall were proved to belong to Stones 5 and 6, and certain of these could be, and were replaced; although other portions, including many which joined each other, certainly had formed part of one or other of these stones. In each case at least one course was missing, rendering complete reconstruction impossible. Stones 7, 11 and 12 had been damaged to a greater or less degree in order to clear the route for the cart-track. Stones 16 and 17 were discovered buried in pits of the unusual depth of 8 feet and 7.7 feet respectively. These likewise were re-erected in their original positions. The site of Stone 17 lay within a cow-byre, but on application being made to the owner, Mr J. Peak-Garland, of Manor Farm, he courteously agreed to the demolition of this structure in the interests of the monument. At this stage the

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writer desires to record his sincere gratitude to Mr Peak-Garland, not only in this regard but for his sympathetic interest in the work, no less than for his invaluable practical assistance. This included permission both to remove trees and to re-erect fences, and it is not too much to say that without his continued co-operation the excavations, at any rate of the southern part of the area available in the northwest sector, could not have been carried out. Finally, the stone-holes of Stones 2, 4, 8, 9 and 10, were identified, in each case with an adjacent burning-pit indicating all too clearly the fate which the stones had suffered since Stukeley's day.

In all the stone-holes quantities of clay of riverine origin were found introduced as a packing medium, while a large number of packing stones had been utilized in the stone-holes which had not suffered from subsequent disturbance. Holes which had held small stakes to minimize the friction, which would otherwise have been occasioned by the pressure of the base of the stone upon the side of the stone-hole opposite to that from which it had been erected, were found in the majority of undamaged stone-holes, as well as other features in the chalk indicative of sockets for baulks and vertical posts for various purposes. The stone-hole of Stone 6 was curious in so far that it would appear to have been excavated to a greater depth than was subsequently found necessary, the stone having actually been erected upon a foundation of closely packed supporting stones, carefully laid upright upon their edges. Stones 1, 3, 14 and 15 were excavated to their bases. Stone 1 was found to have slipped in its socket seemingly during, or at any rate shortly after, erection, accounting for its present position, which had previously always puzzled the writer. The position of Stone 14, standing obliquely to the arc of the Circle, has in the past given rise to considerable conjecture, much of it of a fanciful and far-fetched nature. On examination, however, the explanation was found to be quite simple. Owing to the breaking of a horizontal supporting stake, 6 inches in diameter, the stone had imbedded itself up against the northwest corner of the stone-hole, at the same time sliding on the sloping base of the stone towards the north. That this accident had taken place during the original erection was further shown by the fact that the part of the stone-hole in front of the stone, and at the northeast corner, had been filled in with packing stones.

A discovery of considerable importance was made when, on examining material which had been tipped into the ditch to form the course of a medieval track-way, a causeway of solid chalk was found to exist. An original entrance through the bank and over the ditch from the north



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was therefore proved to have existed. The breadth of this causeway could not be ascertained owing to its northeastern edge being at present under the main road to Swindon.

The excavation of a disturbed area of ground a little distance within the Outer Circle and situated between Stone 1 and Stone-hole 2 disclosed the unsuspected existence of a definite stone-hole, to the west-southwest of which, upon a platform slightly below the untouched level of the chalk, lay a quantity of packing stones partly surrounded by a semicircle of closely set stake-holes, which had presumably held anti-friction stakes. So close was this stone-hole (PLATE II, 1), referred to as 'A' on the plan, to that of Stone 1 that it would not have been possible for a stone to have stood in each at the same time, and since Stone 1 has never fallen, Stone A must have antedated it. A further feature of interest lies in the fact that no sign of destruction of this stone by fracture was evident on the site. At a distance of 36 feet to the northwest, during the process of the uncovering of the causeway to the untouched chalk, a second stone-hole ('B' on plan) was subsequently uncovered, although, owing to the scarping of the causeway on both sides to a gradual slope, possibly in historic but more probably in prehistoric times, only the bottom of this stone-hole still existed. A third stone-hole ('C' on plan) was discovered 36 feet to the north-northwest of B (PLATE II, 2). In this case, however, the northeast limit of the ditch had actually cut through the socket, providing thereby conclusive evidence that this stone-hole, and it is to be presumed Stone-holes A and B as well, antedated the bank and ditch and Outer Circle, and that the Circles of Avebury consequently represented a structure of two separate periods. On the assumption that Stone-holes A, B and C formed the arc of a circle, it was shown that a third setting must have existed of practically the same diameter as those of the southern and central circles, while the centres of these three settings would have lain almost in a straight line. It seems impossible therefore not to conclude that what one may term 'Avebury I' consisted of three settings of stones (whether consisting of single circles or double concentric circles remains to be demonstrated by excavation), unaccompanied by banks or ditches. At a later date, although not necessarily after any great lapse of time, a monument of a different type consisting of a ditch, a bank outside it composed of the material from the excavation of the ditch, and a single attendant circle of megaliths on the inner side of the ditch, was constructed, the line of the bank and ditch being broken by entrances consisting of causeways of solid chalk. Whatever

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significance may have been attached to the lay-out of the earlier structure was evidently ignored, if indeed it had not already been forgotten, by the constructors of the second part of the monument, in view of the apparent removal, if not actual destruction, of the northern setting consequent upon the formation of bank, ditch, and accompanying stone-circle. From the evidence obtained during the excavations of the West Kennet Avenue by the Morven Institute in 1934 and 1935,<sup>6</sup> as well as those of 'The Sanctuary' on Overton Hill, and of one of the Long Stones at Beckhampton<sup>7</sup> by Mr and Mrs B. H. Cunnington, it may be assumed that 'Avebury I' is to be allocated to the B1 Beaker-culture during the earliest phase of the Early Bronze Age in North Wiltshire. Mr Piggott has suggested that 'Avebury II' may have been erected by A Beaker-folk at a date which would be contemporary with the later occupation of Windmill Hill. As yet, however, no definite datable evidence to confirm this plausible theory has been obtained. Owing to a certain amount of the bank having been thrown down to form a relatively recent cart-track over the northeast corner, it was necessary to carry out excavations to identify the original limits at this point. During this work sections of a discontinuous palisade trench were uncovered, the purpose of which had been to support the material of the bank in the front and partly round the end. It would appear that no such precautions had been taken beyond this point, nor at the back of the bank where natural silting had been allowed to proceed unchecked. A possible explanation for this feature is that the original erectors were not concerned with the appearance of the rampart unless seen from within the Circle, and the fact that the stones themselves have been dressed only in such a manner as to provide the required forms or shapes, when viewed from a similar position, may be cited as a parallel to this outlook. Alternatively, and more probably, the purpose of those palisades was simply to prevent material silting down from the bank over the causeway or into the ditch.

The entire course of the ditch as far south as the farm road, which represented the southern limits of the area in which either excavation or preservation is at present possible, was cleared of modern and relatively recent refuse to the depth of the top limit of natural silt. This entailed an immense amount of labour, and since no question of stratification was concerned, a mechanical excavator was employed for the

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<sup>6</sup> ANTIQUITY, December 1936, pp. 417-27.

<sup>7</sup> M. E. Cunnington, *Wilts. Arch. Mag.*, 1931, XLV, 313-14.

<sup>8</sup> M. E. Cunnington, *Wilts. Arch. Mag.*, 1913, XXXVIII, 3-6.

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purpose. The material obtained therefrom, much of which had been derived originally from that part of the bank which had been thrown down in the 17th century A.D. to permit the construction of the farm buildings which still cover the site, was replaced where the course could be accurately determined. It was found that in historical times not only had material been thrown into the ditch from the western side but the eastern side had likewise been quarried away to a considerable extent from behind Stone 11 to Stone 17. The silted limit of the ditch on the west was identified by the evidence of a buried turf-line, while the original side was shown, after excavation, by the untouched chalk. The original line of the ditch could consequently be restored and this work has been in progress until the present year.

A positive network of medieval and more recent ditches intersected the entire area under excavation. The relative chronology of these has now been satisfactorily arrived at, but this need not be considered as a subject into the details of which it is necessary to enter in this place.

At the conclusion of the excavations no endeavours were spared to improve the condition of this part of the monument prior to throwing it open to the public. Much of the area was turfed, obstructing hedges were removed, boundary fences re-adjusted, or re-erected as far from the Outer Circle as was permissible. Entrance gates were provided at suitable points and finally notice boards containing maps and cognate information were placed at suitable points. As evidence of the increased public interest in Avebury it may be remarked that the attendance of visitors rose, following the excavations under review, from 100/200 a week to an average of between 1000/1500 during the summer months. These figures have not only been maintained but considerably exceeded since 1937.

### SOUTHWEST SECTOR

Those who visited Avebury a year or more ago will remember the southwest sector as open pasture, flanked on the north side, except at the northeast corner, by a row of houses in varying states of dilapidation. The field contained one standing stone (no. 17 on plan) and one fallen (11), while two (13 and 18) had been buried in such shallow pits that small parts protruded above the surface. Smith<sup>9</sup> had referred to the existence of only one other buried stone, which proved on excavation to be no. 9, although situated some distance from the position indicated

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<sup>9</sup> *British and Roman Antiquities*, 1885.



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on Lukis' survey. In Colt Hoare's<sup>10</sup> time no further stones existed, but no. 11 was then standing. Stukeley<sup>11</sup> however in addition shows nos. 1, 12 and 14 as fallen, the remains of the first of which were recovered during this season's excavations, while both the others were found to have been destroyed by fire. Nine stones, but whether standing or fallen is not indicated, appear on Aubrey's<sup>12</sup> plan, the identity of some of which cannot however be fixed with certainty.

As an essential preliminary to the work of excavation two derelict cottages, long condemned by the local authorities as unfit for human habitation, were demolished, together with attendant outbuildings and a modern stable. Beneath the foundations of these buildings, and between them and the village street, was found the site of a pond, finally filled in, according to local records, about the beginning of the nineteenth century. In the bed of this, and incorporated with the foundations of an old forge, lay the greater part of a megalith (1) which had been largely broken up by direct fracture. Pieces of this stone were identified in an adjacent buried wall, some of which it was found possible at a later stage to attach once more to the parent block after it had been erected.

To the southeast of the Stone 1, five successive pits (2-6) were uncovered in what had formed the garden of the cottages. In each of these pits stones had been buried; but in every case these had later been rediscovered and destroyed by the fire-and-water method. Had it not been for the subsequent habitation of this part of the monument it is safe to say that all these stones would by now have been re-erected in their stone-holes, parts of which in all cases could be distinguished. Six more stone-holes (7, 8, 10, 12, 14, and 22) were identified with adjacent burning-pits. Besides Stones 9, 13 and 18, referred to above, five more stones were discovered buried, all at a considerable depth. These, together with the fallen stone (11) were re-erected in their original positions.

On the completion of the excavation of the western half of the Outer Circle, therefore, over half the original number of stones, not excluding the area which is still covered by the buildings at the south end of the northwest sector, may be seen standing erect, a much more satisfactory result in itself than could have been foreseen at the beginning of the work. (PLATE III).

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<sup>10</sup> *History of Ancient Wiltshire*, 1821.

<sup>11</sup> *Abury*, 1743.

<sup>12</sup> *Monumenta Britannica*.

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During the excavation of the buried Stone 16, a complete skeleton was found within the narrow space between the stone and the only unfinished part of the side of the burial-pit. It is evident that the remains were those of an individual who had been accidentally killed while engaged in completing the pit for the burial of the stone, which had apparently slipped or fallen owing to a support giving way, fracturing the victim's pelvis, and also breaking his neck. The right foot was wedged beneath the fallen stone and it had consequently been impossible at the time of death to remove the corpse. It had therefore been covered over and the pit containing stone and body filled in. The date of the occurrence, and the burial of the stone, could be accurately fixed to within a few years by the discovery near the man's left hip of a discoloured patch of soil, doubtless representing the remains of a leather pouch, upon which lay three coins; two silver pennies of Edward I, minted at Canterbury in 1307, and a sterling of the City of Toul. Other finds beside the skeleton included a pair of pointed scissors, which were from their form definitely those rather of a barber than a tailor, and a small iron object, with the vestigial remains of a wooden handle, which had apparently been a lancet or probe. These objects were found beside the left thigh. The discovery of a pair of scissors in England accurately identifiable to so early a date as the first quarter of the fourteenth century A.D. is interesting.

In passing it may be remarked that the generally accepted explanation—that is in order to facilitate agriculture—for the burial of so many of the stones at Avebury cannot, on other grounds than the employment of a barber for the task, be regarded as adequate, at any rate so far as the northwest and southeast sectors are concerned.

The skeleton has been accepted by the Museum of the Royal College of Surgeons, while the associated finds are housed in the Museum of the Morven Institute at Avebury.

The standing Stone no. 17 was excavated to its base, and was proved to have slipped accidentally during erection, much in the same way as had Stone no. 14 of the northwest sector, which accounted for its present position being oblique to the arc of the circle. In this case certain of the anti-friction stakes had been broken by the accident, remains of carbonized wood being found for the first time in the stake-holes.

The total length of the Outer Circle excavated in 1938 was 723 feet, as compared with 567 feet in the northwest sector in 1937.

Owing to modern habitation the Great Ditch was filled almost flush

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to its edges with soil and every imaginable type of filth and refuse from a point opposite stone-hole 6 to the northwestern end. On this being cleared to the depth of the top of the natural silting, and areas of damage to the sides of the ditch repaired, not only was the original outline once more rendered visible, but a causeway of undisturbed chalk, extending under the village street, was disclosed, thus demonstrating the existence of an original entrance on the west, similar to that on the north discovered during the excavations of 1937. Although the connexion of ideas will almost inevitably occur to the reader this is not the place to discuss the increasing probability, for various reasons, of the existence in some form of the 'Beckhampton Avenue' recorded by Dr Stukeley.

During the excavations of the season under review a cutting was made, behind Stone 11, from the edge of the inner side of the ditch down to the level of the natural silt. A similar cutting, opposite to this, was undertaken on the outer side of the ditch, and finally a section, 10 feet broad, was excavated horizontally into the bank itself. This last disclosed features of considerable interest. First, upon the clearly marked original turf-line, was exposed a face of dry walling, three feet high, and five feet thick, composed exclusively of blocks of Lower Chalk, which had, owing to the seeping of water through the thin turf covering, by now taken-on an almost circular shape with a curious form of laminated decortication, more reminiscent of large snow-balls in a thaw than anything else. Behind this retaining wall the main body of the bank was seen to have been thrown up in a series of heaps or cones, consisting of the material obtained from the excavation of the ditch. These heaps had, during construction, silted down towards each other to a certain extent, and the intervening spaces had been further filled up with fine rubble. The uneven appearance of the top of the bank (except in the northwest sector where the bank has been artificially flattened, probably during the planting of trees), so familiar to visitors to Avebury, may thus in great part be explained as representing an original feature. (PLATE IV).

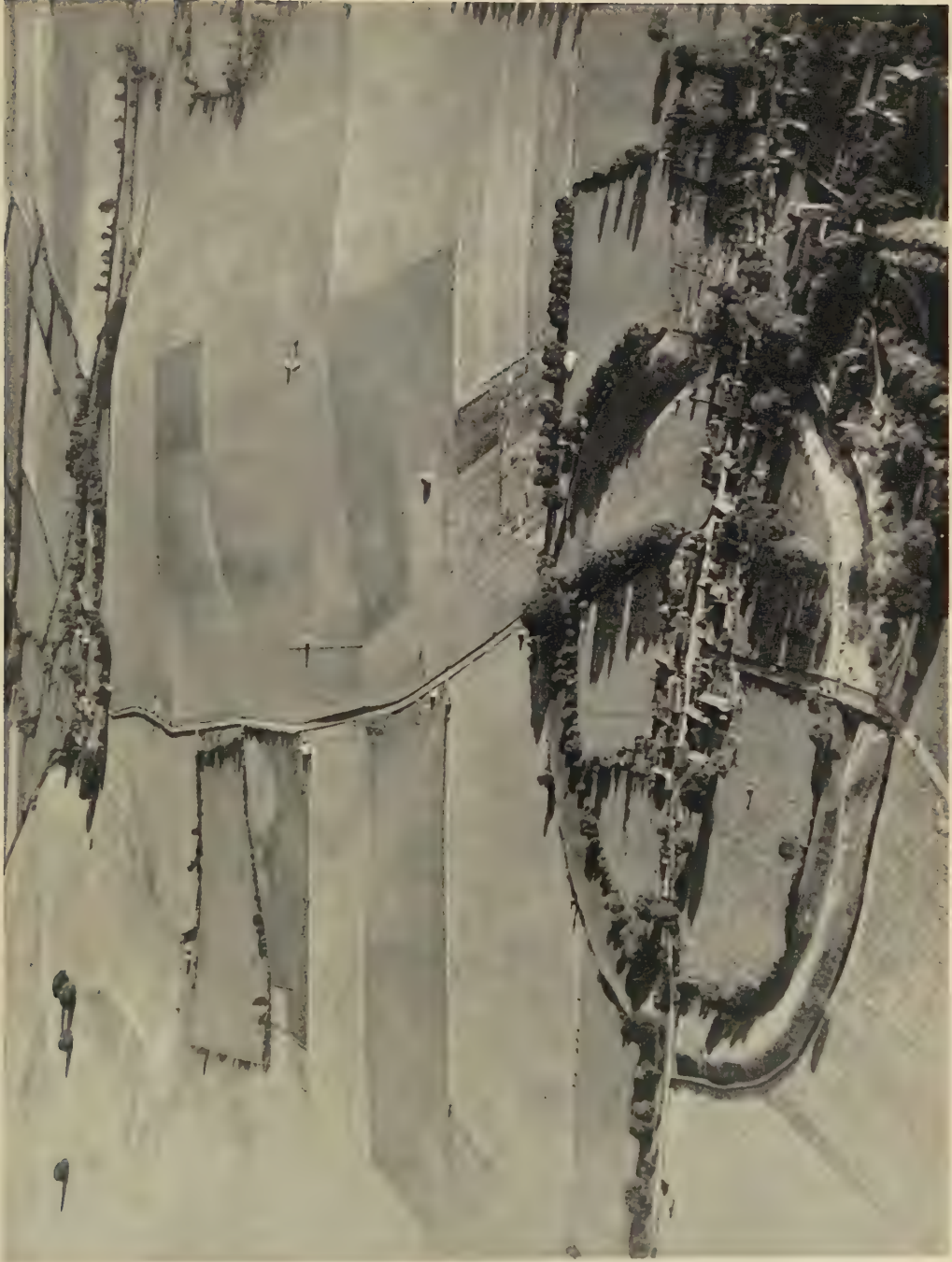
The only object found within the bank was a piece of a worked rib of ox similar to those recorded by Mr Gray<sup>13</sup> during his excavations in the ditch as well as in the bank at Avebury between 1908 and 1922, and the two specimens, reported by Mrs Cunnington,<sup>14</sup> from the bottom of

<sup>13</sup> H. St. George Gray, *The Avebury Excavations*, 1908-22, *Archaeologia*, LXXXIV, 1934, pp. 121, 127, 131, plate XLVIII.

<sup>14</sup> M. E. Cunnington, *Woodhenge*, 1929, pp. 110, 111, plate 21.



PLATE I



AVEBURY, WITH EXCAVATIONS IN NORTHWEST SECTOR IN PROGRESS. THE WEST KENNET AVENUE IS SEEN IN THE MIDDLE DISTANCE  
*Pl.* Major G. W. G. Allen

PLATE II



AVEBURY: NORTHWEST SICTOR—STONE-HOLE A OF NORTHERN SETTING (*see p. 227*)



AVEBURY NORTHWEST SICTOR—STONE NO. 1, AND SITES OF STONE-HOLES A, B, AND C (*see p. 227*)

PLATE III



AVEBURY: SOUTHWEST SECTOR AFTER EXCAVATION, LOOKING NORTHWEST (see p. 250)



PLATE IV



AVEBURY, SOUTHWEST SECTOR: RETAINING CHALK WALL OF BANK *See p. 232*



AVEBURY, SOUTHWEST SECTOR: SECTION OF BANK BEHIND RETAINING WALL

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the ditch at Woodhenge. No satisfactory suggestion has been put forward regarding the purpose of these articles, but their occurrence in each case in association with digging operations in chalk cannot be overlooked.

Sealed beneath the original turf-line were found much-abraded sherds of Neolithic A pottery in the vicinity of two stake-holes and a formless, though artificial, depression in the chalk, presumably of the same period, and in any case antedating the construction of the megalithic monuments of Avebury.

On June 1st 1938 the Museum of the Morven Institute, where exhibits in connexion with these excavations are displayed, was officially opened to the public, over six thousand persons visiting the building within the following five months.

## Notes and News

### BRONZE STATUE FROM KHUZISTAN, IRAN (PLATE I)

In the *Geographical Journal* (pp. 324-6) for October 1938, is published a photograph of a fine bronze statue (plate 10, opp. p. 324) discovered by Sir Aurel Stein during his recent 'journey' (as he modestly calls it) in western Iran. By courtesy of Sir Aurel and of the Royal Geographical Society we are able to reproduce the photograph (PLATE I) together with his account of it. He asks us to state that a full account of the site and of other finds brought to light there by his excavations will be published in his detailed report.

The statue was encountered in the house of the military administrator of the Malamir district. It is carefully cast, 6 feet 4 inches high, wearing on the head a diadem-like band, and has a sword and dagger suspended from a waist-belt. 'While the dress of the figure was Iranian, as also the arrangement of the hair, the excellently modelled head showed unmistakably the influence of Hellenistic art. The features of the face curiously recalled those represented in certain Graeco-Buddhist sculptures of Gandhara. From the same find came fragments of smaller bronze figures and two marble heads. One wears the royal diadem and the other, badly damaged, is that of a Hellenistic type of Aphrodite, like that found by me in 1934 at Fasa. All these sculptural remains could clearly be recognized as dating from Parthian times, the least known period in the history of Iranian art'.

The statue was found six months before Sir Aurel's visit in the valley of Shami, and the site is not far to the west of the intersection of Lat. 32° N. and Long. 50° E. He proceeded to the spot and the rest is best described in his own words (G.J. pp. 325-6) :—

'Retracing from Susan part of our route and then crossing a low pass to the north, we reached Shami by January 27. There in the steep but fairly open valley known by that name we were shown the spot where the bronzes had been discovered. It lay at an elevation of about 3600 feet on one of the terraces which stretch down from a rugged high mountain on the west and offer some ground for cultivation. A short while ago an order had gone forth here to the scattered camps of still semi-nomadic Bakhtiari that all claiming arable land should settle down near it in permanent habitations. So one of the Shami people had started to build himself a dwelling with the rough stones



## NOTES AND NEWS

plentifully lying about on that terrace. In digging down for a foundation wall he had struck the bronze statue seen at Malamir at a depth of a couple of feet. After a day's digging done in the presence of the district officer had brought to light the fragments of sculptures also removed to Malamir, the place of the find had been left undisturbed under administrative orders.

'A week of steady excavation now allowed me systematically to clear the whole of the low mound from the southwestern corner of which the sculptural remains had been recovered. It proved to mark the site of a quadrangular temple, measuring about 76 by 40 feet, which had been destroyed by fire and sacked. Subsequently its walls had been levelled to the ground to provide space for some later structure. But the foundations of the walls could still be traced, and in the centre of the quadrangle an altar built with burnt bricks and approached over a brick pavement had survived.

'There was only too clear evidence that this site, dating from Parthian times, had after its first destruction been greatly disturbed by quarrying operations for metal and other useful materials. This was proved by the disturbed position of six massive stone bases which had once carried statues. On some of the bases there were sunk sockets for the feet of more than one figure. Among the numerous broken pieces from bronze images, all cast and clearly showing in their modelling the influence of Hellenistic art, there were several which had belonged to statues over life-size.

'The most striking of these remains are pieces of a fine male head, obviously smashed with violence. The two halves of the well-executed mask can fortunately be fitted together and show a face in a distinctly naturalistic treatment of Hellenistic style [plate 9 in the original account]. A third piece found close by shows the back perhaps belonging to the same head. The diadem tied over the locks indicates that a royal personage is represented. Worship of kings deified is well attested among Alexander's successors in the Near East, and expert examination of the head, when the portions have been properly joined up and cleaned, may yet lead to the identification of the king to whom the image was dedicated.

'Among the fragments recovered from other bronze statues I may mention a carefully modelled colossal hand which, by the pose of the fingers and wrist, suggests that of a divinity holding a sceptre or spear. Besides other sculptural fragments, we recovered a miniature altar of marble, delicately carved; pieces worked in repoussé of two ornamental

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candelabras of copper, perhaps for burning incense ; the elegantly designed bronze foot of a chair or table representing the foot of a lion ; and a sheathed steel dagger. A small copper coin from the mint of some Greek town in Mesopotamia afforded a welcome indication of the approximate date when the shrine was still visited.

‘There remains the puzzling question as to how a locality, so restricted in space and resources as this outlying valley of Shami is, could afford a temple so amply provided with objects of Hellenistic-Iranian worship. It is hard to assume that objects of such size and weight as a colossal bronze statue could have been brought from any great distance to a place surrounded by rugged mountains. On the other hand, if it was cast here, what highly developed cultural and economic conditions it presupposes for such a locality. A thorough exploration of certain ruins just traceable below the surface of cultivated terraces lower down might perhaps yet help to answer such questions. But even without this there is reason to feel grateful for the light thrown by the finds of Shami on a fascinating but as yet very scantily documented phase of art in Iran’.

## EXPEDITION TO SWAT AND AFGHANISTAN

For the last twenty-five years it has not been possible to add to our knowledge of the Art of Central Asia by further exploration of the sites on the trade routes skirting the Tarim Basin. But since the last expeditions of Stein and Le Coq to these regions, the French Delegation's discoveries in southern Afghanistan have made desirable a fresh approach to the chronology of the whole complex of Buddhist Art from northwest India to Central Asia. While political difficulties still make it impossible to work in Sinkiang itself, an attempt was made in the summer of 1938 to plot a few points in the earlier stages of the culture route, which seems to lead from northwest India over the Hindu Kush and northeast through Badakshan on its way through the Central Asian desert to China.

A lightly equipped expedition of four, which left England at the end of May, under the auspices of the Victoria and Albert Museum and the R.G.S., divided its time and forces between an archaeological reconnaissance of northern Afghanistan, some parts of which have not been travelled by any Englishman for a hundred years, and the survey and excavation of Greco-Buddhist sites in the Swat Valley, beyond the northern edge of the Peshawar Plain. In Swat, Sir Aurel Stein had visited and surveyed some of the sites in 1926, but until 1938 no

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archaeologist had been permitted to excavate. About three months were devoted to the excavation of some of the numerous monastery sites in this once populous centre of Buddhist civilization, and it was possible to make a representative and well documented collection of sculptures. By mapping all the remains of the Buddhist period—monasteries, shrines, forts, villages and the cultivation-terraces which are still a prominent feature of the Swat landscape—an attempt was made to reconstruct the appearance of the country during the first five or six centuries A.D. At a mound near Charbagh, in Upper Swat, excavation revealed walls of the Buddhist period, pottery, terracotta figures, beads, ironwork and other evidence of ancient occupation.

In Afghanistan the French Delegation has held a monopoly for archaeological work since 1922. It was largely owing to its generous cooperation that two members of the expedition were able to make an archaeological tour, though not of course to excavate, in northern Afghanistan. Their object was to find out what surface-ruins exist; what sites might be worth excavation in future, and what evidence of occupation in ancient times had been found locally. Greco-Bactrian coins and Greek and Sassanian seals were acquired at various places, but the most important discovery was that of some Hellenistic column bases at Kunduz. This find emphatically disproved the current theory, largely based on M. Foucher's fruitless excavations at Balkh, that the buildings of ancient Bactria were made entirely of mud. Near the scene of this discovery there is a gigantic 'castle', half a mile in circumference with walls of mud a hundred feet high. This is probably a Sassanian stronghold; the pottery, which owing to the excavations of local quarriers could be collected from the lower levels, included Sassanid examples. After a brief tour of Badakshan, during which the members of the expedition located the probable remains of the ancient capital of the province on the southern branch of the silk route, they visited Balkh, where the surface remains are a confusing wilderness of mud walls of uncertain age. In the plain west of Balkh they traced a number of systems of ancient irrigation canals and examined various groups of mounds. Here again pottery fragments, mostly of the early Islamic slip-painted ware type which they collected, should give some clue as to which types of mound are ancient and worth excavating.

The finds of the expedition are at present exhibited at the India Museum, South Kensington, for the next few months.

EVERT BARGER and PHILIP WRIGHT.



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### DISCOVERIES AT MERSIN (PLATE II)

We are indebted to the Editor of *THE TIMES* and to Professor John Garstang for permission to print the article by the latter on Mersin, Cilicia, in *THE TIMES* of 10 March 1939, page 17, and for permission to reproduce the illustration (PLATE II).

The discovery of well-preserved remains of a fortified city, with developed features of civil and military architecture, 20 ft. below the imperial Hittite fortress uncovered last year, marks the climax to another instructive season's work. Happily the evidence on the relative dates of these finds is both clear and plentiful; but as it is technical in character a few lines must suffice here. The early architectural remains were found well down in our chalcolithic deposits, below a stratified series of building levels in which the culture was related to that of Uruk and El Ubaid. They also contained internal evidence of direct contact with the polychrome phase of the still older Mesopotamian culture known by the name of Tell Halaf. These indications fix the position of our finds in relation to the pre-dynastic civilizations of Mesopotamia; and an approximation in date to 3600 B.C. does not exaggerate their antiquity. Hitherto architectural remains of this remote age have been limited to a few incomplete houses and rooms on North Mesopotamian sites; yet in the westernmost corner of the Cilician plain, 150 miles from the nearest known Halafian centre, we find a whole group of good buildings laid out with plan and purpose.

Some of their architectural details are indeed astonishing. Though mud bricks were used for building in preference to undressed stone, they were large and regular in shape and size. Alignment was good, even the corners of rooms were reasonably square, and the faces of walls were plastered. Room walls were about 2 ft. thick, but main house walls might be twice that size. The outer defensive wall was, in fact, 5 ft. in thickness, and standing on an outer terraced foundation of stone it is preserved to a height of 7 ft. or 8 ft. It is pierced by a continuous range of narrow apertures, 8 in. by 20 in., which traverse with parallel sides the full thickness of the wall. On the inside a row of uniform rooms abuts against the main wall, and in these the apertures appear like windows, regularly spaced, two to each room. They seem low, but they are placed at a convenient height for kneeling archers using bows about 4 ft. long. The minimum span of the rooms was about 13 ft.; for their roofing supplies of good timber were available

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on the lower slopes of Taurus, a factor which helps to explain no doubt the unparalleled architectural developments of the site.

The continuous roof of the rooms would form a defensive platform, and supplies of home-made missiles suggest free use of the sling. The fact that these missiles were made of clay, albeit shaped and partly fired, and that they outnumbered the stock of selected river stones piled with them, suggests that the defenders of the walls had to withstand a siege and were driven to this expedient to supplement their ammunition. In the end the defence was apparently overwhelmed, the city was taken by assault, and the complete contents of its rooms lay buried beneath the débris of fallen walls and burning roof timbers. Though much damaged, the furniture of the rooms is found to have been more or less alike, including a grain bin, grindstone and pounder, fireplace, and cooking pots, as well as a number of storage jars and smaller vessels decorated with painted designs. Each room, moreover, was fronted by an enclosed court, around which a series of post-holes indicate a verandah or roofing of light materials. Thus these rooms against the main wall, though dedicated to the defensive necessities of the town, constituted small domestic units; they formed in all probability the married soldiers' quarters.

Turns in the main wall were covered by stout offsets, each sector of the masonry continuing straight; but at its western extremity, overlooking the river, where the angle would have been sharp, a main gateway intervened. This was protected by an extra-mural tower and a small internal guard-room. The protected passage was about 12 ft. long, the width of the doorway nearly 6 ft. Just within, by the side of a mural recess, was a stout mounting-block, the upper side of which was worn smooth with long use. The main wall on the west side was found to be denuded by erosion of the river, but in this quarter of the city there had stood a much larger detached building of domestic character, presumably the residence of a chief. Its central feature was an open court, 36 ft. long and 12 ft. broad, surrounded by good strong walls. Within this enclosure was a large baking oven of familiar oriental character. On either side was a row of well-built rooms about 15 ft. square, only one of which was rather narrower, more like a passage, and gave access by an outer door to an open space within the city, just opposite the watergate. The house formed a square block of rooms on either side of a central court.

It is already obvious that we have found in Cilicia a centre of civilized development which was already well advanced when Egypt, Babylonia, Crete and Europe were still in infancy. Architectural indications

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are confirmed in other ways. The painted pottery of Mersin is a distinctive feature of many successive ages ; but at this period, though entirely made by hand, it had already attained its zenith in variety of form and decoration and details of technique. The finest examples of these wares were found in the building last described. Even the kitchen pots, though plain, were freely burnished, the most attractive being finished with a shiny black or deep brown surface and furnished with elaborate handles of a distinctive kind. The common variety of local painted jar was based in shape on a gourd with shortened neck, and was decorated with linear patterns done in matt black paint upon a burnished cream surface. Less common but even more attractive were a number of trichrome jars of varying shapes, on some of which the rosette appears as the central motive of the decorative scheme. This was carried out, in accordance with local tradition, in matt black upon the reserved cream surface of the pot ; while the body of the vessel was further treated with broad bands of red or salmon-pink paint bordered with deep lines of black. In the same building was found an imported fragment of polychrome ware in the later Halafian style, while copper axes, flint sickle blades, and numerous obsidian chippings confirmed the chalcolithic character of the deposits at this level as a whole.

Such in rapid outline were the chief features of our 16th level. The buildings, which represent the oldest architecture yet known, have been left standing for all to see until the work is resumed next autumn. The clarity of the ground plan and details is a tribute to the skill and devotion with which Mr Seton Lloyd carried out his duties as field supervisor. It is indeed one of the clearest pieces of excavation I have ever seen, and in this respect Mr Seton Lloyd's long experience of Mesopotamian sites has proved of great value to the expedition. If in describing the features of this level I have stressed the oriental links it is for the simple reason that these enable us to ascribe approximate dates to the remains. But certain suggested contacts with the West are even more fascinating, for they lead us into areas of prehistoric Europe, in particular the Danube basin, where hitherto no direct dating links have been established.

Our 15th level (PLATE II), which overlay that last described, was distinguished architecturally by a massive gate-tower 25 ft. square. The cultural affinities at this time were with El Ubaid rather than Tell Halaf, but among the local wares the trichrome style of decoration persisted, though the rosette had disappeared and the designs were much simplified. Large curving bands of salmon-pink between broad black



PLATE I



BRONZE STATUE FOUND BY SIR AUREL STEIN IN WESTERN IRAN (*see* p. 234)

*By courtesy of Sir Aurel Stein and the Royal Geographical Society*

## PLATE II



### MERSIN, CILICIA

Buildings at Level XVI, showing rooms against the main wall and apertures in the latter, 3600 B.C. At the far end of the row is the gateway and mounting block. In the foreground (left) is a corner of the Hittite Fortress at Level VII, 1300 B.C. (see p. 238)

*By courtesy of Professor J. Garstang*



PLATE III



HOMO SAPIENS AT CHOUKOUTIEN, CHINA

Work in progress near the Upper Cave at Choukoutien. The first remains of an Upper Palaeolithic settlement found in Asia, except in Palestine (*see* p. 242)  
*By courtesy of 'The Times'*



PLATE IV



HOMO SAPIENS AT CHOUKOUTIEN, CHINA

The 'Melanesian' Woman's skull. It is clear that a sharp instrument has penetrated the left side of the skull, and the depression at the top of the forehead can be seen (*see p. 243*)

*By courtesy of 'The Times'*

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lines were laid upon the cream surface of the pottery, and decorative details were adapted to the varying shapes and sizes of the vessels. Similar tricolour schemes applied to curvilinear designs are a special feature of certain painted neolithic wares from Bessarabia, in the Carpathian area of the Danube basin. If comparison confirms the superficial resemblances prehistorians of Europe will find fresh material for that chronological revision towards which some of our leading experts are already feeling their way.

But similar trichrome treatment is not uncommon, as witness the ancient wares of Jemdat Nasr and more recent products of the Algerian Kabyles, so that the suggested contacts with prehistoric Europe, if entirely unsupported, would not be worthy of mention at this stage; but there seems to be further evidence of like kind in our deeper levels. Nor should we overlook in this connexion the striking series of chalice forms and bowls decorated with flowing white lines upon a burnished black or deep brown surface. This new type comes from our uppermost chalcolithic level (no. 12), in which Uruk grey wares were also present; and the ramifications of its relationships may carry us even further into the prehistory of the West.

Though I have referred to the uncovering of our sixteenth level as marking the climax to the season's work the anti-climax is not less astonishing. It should be borne in mind that our mound rises 80 ft. above the water level—*i.e.*, about 70 ft. above the level of the plain. Now our sixteenth level, which we have dated to 3600 B.C., was found at a depth of some 35 ft. below the summit of the mound, less than half-way down. But our soundings show that the whole of the underlying strata represents human occupation. We have followed down a further 10 ft. the traces of an earlier chalcolithic culture; and below that again, for no less than 30 ft., the accumulated remains of a still older civilization, that of the original neolithic settlers.

Already in the previous season test trenches had indicated the presence of this unparalleled deposit, and to make doubly sure I opened this season a wider terrace, contiguous with the main area of excavation, and invited Mr Miles Burkitt to come out and study this new culture on the spot. Every one interested will read his studied report with profit and enlightenment. Meanwhile he has favoured me with a *précis* of his observations.

He finds that the deposits below the painted pottery levels, roughly from the 30 ft. down to the 12 ft. level, represent two main phases of neolithic culture, in which black and brown burnished pottery vessels,

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sometimes decorated in simple ways, are associated with tools of obsidian, including a new type of beautifully made lance-head. A few polished celts also occurred. Our deeper soundings of the previous year had failed to find the beginnings of this culture at the present water level. 'Accepting the usual dating for the Tell Halaf culture', says Mr Burkitt, 'the base of the upper neolithic can hardly be later than 5000 B.C., while the lowest level reached must date to a thousand years earlier'.

In view of these promising results, and encouraged by the founder of the expedition which I have the honour to lead, I am now laying plans for a further three years' excavation, in the course of which we may hope to explore systematically the lower chalcolithic and the neolithic levels. I also propose to develop more widely the imperial Hittite levels in the hope, *inter alia*, of recovering some historical document which will tell us at least the original name of this most fertile site. In conclusion I would like to take this as the earliest opportunity of thanking the Turkish authorities for the great privilege of permitting the expedition to work in this area, and for the unfailing courtesy with which they have facilitated our task.

### HOMO SAPIENS AT CHOUKOUTIEN (PLATES III-IV)

We are indebted to the Editor of THE TIMES for allowing us to publish the following communication from their Peking correspondent, 21 February 1939 (p. 13, col. 1), and for permission to reproduce the illustrations.

The hillside at Choukoutien, in which the famous 'Peking Man' was found, has yielded another anthropological treasure. The Peking Man was one of the most important discoveries of what is known as 'ancient man'; now, a few yards away, there have been found unusually interesting remains of 'modern man'—though 'modern' here means anything from 20,000 to 100,000 years old. They are the first remains of an Upper Palaeolithic population ever found in Asian soil, except in Palestine. The hillside at Choukoutien, looking out from the fringe of the North China mountains across the gigantic North China plain, is honeycombed with what the geologist recognizes as caves which time and the elements have filled with deposits of sand, earth, and small stones until they have become part and parcel of the hill. For some years investigators of several nationalities have been digging out these caves for the remains of man and the animals he hunted. Large blocks



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of material—earth, sand, and rubble in a hard compact—have been brought back to Peking to be broken down bit by bit in the laboratories of the Rockefeller Institute for the valuable fossilized remains they contain, and it is from some of these that have been taken the remains of late Palaeolithic man. (PLATE III).

They come from what is known as the Upper Cave, and consist of a 'population' of seven people, who appear to be members of one family: an old man, judged to be over 60, a younger man, two relatively young women, an adolescent, a child of five, and a new-born baby. With them were found implements, ornaments, and thousands of remains of animals, including bones or teeth of bears, hyenas, tigers, hunting leopards, and ostriches. The bears, hyenas, and ostriches belong to species which are now extinct, while the tiger and hunting leopard have long ago disappeared from this part of China.

Study of the remains has produced some remarkably interesting facts. To begin with, all seven people must have met violent deaths, for their skulls were clearly damaged by both blunt and pointed weapons while the scalp still covered the bone. Some of the skulls are badly smashed, but those of the old man and the two women are well enough preserved to permit determination of their special characteristics. They have certain facial features in common, but in some characteristics they differ so much that they give the distinct impression of belonging to three different racial groups which are now widely separated on the earth's surface.

The old man has for scientists a special interest. The brain case shows him to be of a very primitive type not very far removed from Neanderthal Man. In other features he recalls European man of the Upper Palaeolithic period, while his face rather suggests recent Mongolian types, though without being identical with any of them. His height has been judged as 5 ft. 8½ in.

Of the two women's skulls one looks very like that of a modern Melanesian woman of New Guinea, while the other is similar to that of a modern Eskimo woman. The skull of the 'Melanesian' woman has a depression round the top where the hair meets the forehead, similar to deformations found in Amerindians and also in Eastern peoples of later date. The Ainu woman has it, as a result of carrying her child on her back, suspended from a string or strap which passes round her forehead. (PLATE IV).

From these observations some interesting conclusions are drawn. In the first place Mongolian types such as are found in the modern

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North China population show no features pointing to ancestry among the population of the Upper Cave. Undoubtedly, says Dr Franz Weidenreich, who is the authority on the Peking Man, Chinese existed in this area at that time, and these seven people may have met their deaths at their hands. He believes that long before any immigration from Asia to the New World took place the types which now compose the American native population were settling down in or migrating through the eastern part of Asia. It may be, he adds, that anthropologists have been lucky enough at Choukoutien to catch some of the first Indians on their way by the land bridge to the New World.

These people had a relatively advanced culture, for found with them were stone implements, a bone needle, a bone implement, and ornaments made from beads of perforated teeth, sea shells, worked stones, and the bones of both birds and fishes. The bone needle, a finely shaped instrument but unfortunately broken off at the eye, argues that they wore sewn clothes. The beads included drilled stones coloured with hematite, the nearest known deposits of which are across 90 miles of mountainous country. The shells show that the cave-dwellers had also found the sea, now 125 miles away, and other things indicate that they had been south of the Yellow River, which is now 190 miles away. They were thus travelled people, as indeed their descendants must have been to find their way later down into North America before the Arctic and Pacific waters had met and the land bridge between Siberia and Alaska had been destroyed.

### IRON AGE CAMPS

Dr R. E. Mortimer Wheeler writes :—To the March number of *ANTIQUITY*, pp. 58-79, I contributed a hastily written and still more hastily printed summary of the work of a recent expedition to Brittany and western Normandy. In the course of my remarks I referred to 'the acid soils of the chalk and the green-sand' as destructive of metal-work. The phrase was a startling one and should have been differently worded, since acid soils, though in place on the green-sand, are hardly ever found on the chalk. The fossil soils of Maiden Castle are in fact, neutral or alkaline, and the marked deterioration of metal-work on the site cannot therefore be so simply explained. Dr F. E. Zeuner, who has kindly reported on the matter, emphasizes the difficulty and complexity of the problem. It is conceivable, he points out, that, while the site was occupied, the upper layers containing the metal-work were full of decomposing organic detritus and had at that

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time a chemical reaction very different from that of a normal chalk soil, and may even have been acid. Alternatively, in decomposing habitation-strata ammonia is produced, and this might help to dissolve the bronze. A further alternative is that, some of the cultural layers being very loose, plenty of oxygenated water would come into contact with the metal, which thus would be oxydized more rapidly than in a denser medium. This would apply to the specimens in the loosely packed layers which are characteristic of a site such as Maiden Castle.

Whatever the cause, the solid fact remains that save in a few layers, generally of the more compact sort, the metal-work at Maiden Castle was in a singularly ill-preserved condition, and it is evident that not a little material of this kind must have perished completely.

### COELACANTH FISH

The *Illustrated London News* of 11 March last published a magnificent double-plate of a very remarkable fish caught in a trawl-net off East London, Cape Province. The discovery of a living fish of the Coelacanth group, which hitherto was believed to have been extinct for fifty million years, is one of the most remarkable occurrences of natural history. The fish was described by Dr E. I. White, Deputy Keeper of the Department of Geology in the British Museum (Natural History). It was five feet in length, weighed 127 lbs., and a beautiful steel-blue in colour, with big dark blue eyes. The fish has been the subject of a paper read before the Linnean Society by Mr J. R. Norman, of the Department of Zoology in the British Museum, a summary of which was printed in *The Times* of 17 March (p. 25).



## Reviews

KHORSABAD, Part I. By GORDON LOUD, with chapters by HENRI FRANKFORT and THORKILD JACOBSEN. (*University of Chicago, Oriental Institute Publications*, vol. XXXVIII). *Cambridge University Press*. 45s.

At the end of 1929 the Oriental Institute of Chicago began to excavate at Khorsabad, a place so famous that it would be an impertinence to offer it an introduction. Not merely was it in antiquity the creation and residence of the great Sargon II of Assyria, but it has acquired modern fame as the classic site where Paul Émile Botta in 1843 began the first excavations in the land of the Two Rivers, and therewith revealed the first glimpse of a civilization now seen to rank beside, if not before, the Egyptian in its significance for the growth of early man to human stature. Yet the mounds of Khorsabad had remained untouched since the departure of Victor Place and Félix Thomas in the 1850's, and the present volume is appropriately dedicated to these authors of the second of the two monumental works upon Khorsabad published in the nineteenth century.

The labours both of Botta and of Place have left much of the site unexplored ; moreover, the means at their disposal then were necessarily so inadequate that some of what they found might be expected to yield more information in the light of what has been learned since. Mr Loud and his collaborators have begun, in this volume, to publish matter in both of these kinds. A new gate was excavated in the *enceinte* of the city, and several rooms and appendages in the palace itself were re-excavated, with the expected result of a more complete revelation of their nature and contents, and incidentally with the very valuable accompaniment of fine specimens of sculptured wall-reliefs and figures, and interesting building-inscriptions of the royal founder. Among the most remarkable discoveries may be mentioned the king's throne-room with its sculptured stone dais for the throne, and the group of temples connected with the palace, remarkable for the curious decoration of their entrances. All of these features are fully described, with copious plans, drawings, photographs, and reproductions from the great folios of the pioneer explorers. Indeed, illustration is the essence of work at such a site as Khorsabad, and the authors deserve praise for their unstinted use of it, though it is true that some of the pictures of the work in progress are rather trivial, and it might be objected, in a similar vein, that something too much is made of the material difficulties of removing a winged bull to be taken to Chicago. Many such monsters were transported in the 'forties and 'fifties with immensely less mechanical aids, in far less settled conditions, and their hazards were then only beginning when they had been set

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afloat upon the river ! Dr Jacobsen has published the inscriptions very competently, and all scholars interested in Assyrian art and history will look forward to further volumes upon the other notable discoveries known to have been made at Khorsabad.

C. J. GADD.

ILE DE PAQUES. By HENRI LAVACHERY. *Paris, Bernard Grasset, 1935. pp. 299, and illustrations. 18 francs.*

In 1934 a Franco-Belgian expedition was sent to Easter Island. Dr Alfred Métraux, a Swiss by birth, represented France, and was concerned with ethnology and folklore. Dr Henri Lavachery represented Belgium, and worked at archaeology, and Dr I. Drapkin, a naturalist, was sent by Chili, to whom the island belongs. The expedition was on the island from July until December 1934. The prime mover in its inception was Professor Paul Rivet, of the ethnological department of the Trocadéro Museum, Paris (now rebuilt and called the Musée de l'Homme).

The book is almost a diary of the work of the author, 'Enlique' to the natives. He gives a list of former explorers of the island, and at first was much afraid that he would find nothing new to record. However, his thorough-going search with the help of the natives was well rewarded, and his conclusions do, to a large extent, uphold the views formed by Mrs Routledge and others.

These views are, shortly, that the inhabitants were originally Polynesians, and that they first occupied the island between the twelfth and thirteenth centuries A.D. Their dialect has affinities with that of the Maoris, and the invasion may have been roughly contemporary with that which peopled New Zealand and Hawaii. These islanders probably originated in the Gambier Islands, the nearest land on the west, whose monuments have closer affinities to the Easter Island 'ahus' than those of any other Polynesian peoples. The culture was not mixed ; there was an obvious unity manifested in the different arts, stone and wood, sculpture, rock carving, and tattooing. The size and peculiar nature of the great statues was no doubt due to the supply of easily worked stone from the quarries of the volcano Rano Raraku. Stone was considered an easier medium to work than wood, which is rare on the island. The habit of making statues to represent the dead is usual in Polynesia.

The chief monuments are the ahus, which are derelict stone erections, usually bordering the sea, the remains of sanctuaries, graves, and sometimes later villages built of the sacred materials, even of statues ; the statues themselves, both fallen from ahus and standing near the volcano ; petroglyphs, of which a number were sketched for the first time by M. Lavachery, and a few subterranean houses.

It is interesting to note that the method of inhumation was probably double,

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exposure of the corpse on the ahu, and subsequent burial of the bones. The cranium was sometimes preserved separately.

The volume is illustrated by photographs that we could wish were larger, and by excellent drawings of the petroglyphs. The appendices include useful statistics of population, a list of museums in which Easter Island antiquities are preserved, a list of the ahus, and a bibliography. D. P. DOBSON.

**FURTHER EXCAVATIONS AT MOHENJO-DARO :** BEING AN OFFICIAL ACCOUNT OF ARCHAEOLOGICAL EXCAVATIONS AT MOHENJO-DARO CARRIED OUT BY THE GOVERNMENT OF INDIA BETWEEN THE YEARS 1927 AND 1931. By E. J. H. MACKAY. *Delhi*, 1938. 2 vols. pp. xvi, 718, and 146 plates. £2 14s 3d.

The operations at Mohenjo-daro down to 1927 were fully described in the three volumes of *Mohenjo-daro and the Indus Civilization*, edited by Sir John Marshall. They sufficed to establish the general character of this completely forgotten civilization of the third millennium B.C. It might be thought that continuance of the excavations for another four years was a waste of money, and that their termination as a result of the financial crisis of 1931 was no great misfortune. Examination of Mackay's account of the last four years' diggings will refute such short-sighted suggestions. He was gradually recreating a complete city in a quite unprecedented state of preservation for such a remote period. As no decipherable literature has survived, we are forced to rely upon purely archaeological data for a reconstruction of the sociology and economy of India 4500 years ago. Only the complete exploration of a whole urban organism can supply the necessary evidence. The results here described already afford substantial help in reclothing with civic life the impressive ruins.

Mackay found a large complex of buildings which he interprets as a palace. If this designation be accepted, it introduces an important modification in the accounts of Indus sociology hitherto published. Appreciation of ancient town-planning is greatly enhanced by the discovery of the broad thoroughfares here described. To help us recapture a glimpse of their former busy life, the excavator happily photographed one of these streets, thronged with modern workmen and their carts. Another vivid touch is provided by his recognition of bazaar platforms built out on to the side-walks in front of the houses, precisely as is done in India today. Additional evidence for the proximity of the river is now forthcoming, but we are still left in doubt as to whether the city was fortified. Inconclusive indications of a circuit wall were coming to light when the excavations were closed down before they could be fully examined.

But excavation was not only recovering the plan—and all that the plan teaches—of one very ancient city, it was recovering also its forgotten history.



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Mohenjo-daro is truly 'a mound of many cities'—or to be exact several mounds. The accumulation of debris revealed in places exceeds 30 feet, and the limits of excavation were set, not by virgin soil which was nowhere reached, but by the level of standing water in the dry season. This accumulation had already been divided into Early, Intermediate and Late periods, each subdivided into three phases, numbered *from the top downwards*, I, II and III. The relics recovered illustrate a complete continuity of tradition in all periods, but it is here shown that the city had been devastated more than once by floods so disastrous as to entail its temporary desertion. The most serious came between Late III and Late II and between Intermediate III and Intermediate II. Apart from the havoc wrought by inundation, bodies of citizens, wounded with sharp implements and left unburied, tell of raids by hostile men, perhaps mountaineers from Baluchistan.

Stratigraphy not only reveals such episodes in the city's history, but also gives clues to social changes. During Late II-I houses were subdivided to accommodate more families. Whether this multiplication of dwellings indicates an absolute increase of the urban population, or merely crowding together of citizens under slum conditions in areas reconstructed after the flood, could only be determined when a larger sample of the inhabited area has been excavated.

The numerous relics recovered during the four years here surveyed not only widen our knowledge of familiar classes but introduce fresh types. Here Mackay describes and illustrates the first representations of boats from the Indus valley, the first model chariot, the first linear scale, locally made cylinder seals (from Late levels), true glazed pottery and reserved slip ware (from the Early period), candle-sticks very like those from Egypt, Crete and Thrace. Further indications of contact with more familiar civilizations to the west are afforded by the green steatite vase already published in *ANTIQUITY*, 1932, VI, 356, and found in an Early context, a marble seal of Elamite (or Assyrian) style from an Intermediate level, and a bronze axe-adze found in a Late house. Though it was found 6 feet down the author was at first inclined to regard the axe-adze as intrusive and possibly of Kushan date (p. 457), but revises this view on p. 640 and points out the implement's identity with those from Hissar III near Damghan in Iran. Etched carnelian beads are also treated as imports from Mesopotamia.

Plenty of relics are found lying about in the ruins and the list here given is enormous. Those hitherto recovered already suffice to give a vivid picture of the art and industry, the dress and furniture, even the toys and games of the Indus people. The relics, like the ruins, are effectively described by Dr Mackay, and happily interpreted in the light of his wide and intimate knowledge both of oriental life today and of the antiquities of Egypt and Mesopotamia.

The Government of India are to be congratulated on recognizing by the

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issue of this report that financial support of an excavation involves also responsibility for the proper scientific publication of the results. The British Museum would do well to follow this example. Eight years have elapsed between the termination of the excavations and the appearance of the report—as archaeological publication goes, this delay cannot be regarded as excessive. In any case it was not the author who was mainly to blame in the matter. But may we express the hope that an equally comprehensive account of the excavations at the sister city of Harappa will soon appear? The book has been printed in India. I have noticed no misprints and the type is easily legible. But the setting, notably of the title page, is not particularly pleasing. The 146 plates give excellent reproductions of fine photographs. Personally I should have preferred a larger scale for the architectural scenes even at the cost of some reduction in their number. In conclusion the book's appearance recalls once more the unprecedented opportunities Indian archaeology offers of rescuing from oblivion crucial pages in human history; for this, funds, which must be ample, seem the principal requisite missing. Dr Mackay at least is still very much alive, but his unique talents as an excavator in the Orient are lying idle. V. GORDON CHILDE.

INCA TREASURE, AS DEPICTED BY SPANISH HISTORIANS. *By* S. K. LOTHROP. Publications of the F. W. Hodge Anniversary Benevolent Fund, vol. II. The South-Western Museum, Highland Park, Los Angeles, 1938. *pp.* VII, 75 *with 5 plates and 13 figures.* 2 dollars.

‘The opulence of the Inca Empire [of Peru] and the richness of the loot secured by the Spaniards have long been fabulous’. Here we are given an excellent account of it, derived from first-hand sources, skilfully blended with the necessary amount of historical narrative. The treasure consisted largely of gold and silver objects, and its total value must have been enormous. Mr Lothrop estimates the value in modern currency of the loot of Cuzco, together with the ransom of Atahualpa, at nearly seventeen million dollars. ‘So far as I am aware, not even one object from the loot of Peru has survived to this day. In 1535, Charles V issued a cédula ordering that all the gold and silver from Peru should be melted in the royal mints at Seville, Toledo, and Segovia. Subsequent shipments received similar treatment. Hence our knowledge of the wealth secured from the Incas comes entirely from historical narratives’.

To judge from the few illustrations, and from what has been since recovered by archaeological work, the artistic loss (as compared with the ethnographical) has not been very great; though one must not forget the portrait-headed vases of pottery. It is one consolation to know that much wealth was deliberately buried, and that by no means all of this was found by the Spaniards, in spite of all the tortures they inflicted upon the wretched owners. The record of the

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conquest of Peru is one of the darkest in all human history, and that is saying a lot.

The present admirably documented account gives the facts of the most celebrated and successful treasure-hunt of all time. O.G.S.C.

MAP OF PALESTINE OF THE OLD TESTAMENT. Published by the Survey of Palestine under the direction of F. J. Salmon, Commissioner for Lands and Surveys. *Jaffa*, 1938. *Price not stated*.

This is a small, single-sheet map, about 24 inches in length by 14 inches in breadth. It is on the scale of 1:500,000, or about 8 miles to an inch, and covers Palestine from Tyre to Beersheba, and from the Mediterranean to some ten miles east of Jordan.

The modern history of the identification of the place-names mentioned in the Old Testament begins with the researches of the American scholar, the Rev. Edward Robinson, who, in 1838, just over 100 years ago, commenced his investigations into the physical and historical geography of the Holy Land, which he published in 1841, under the title *Biblical Researches in Palestine*, with a further volume, *Later Biblical Researches in Palestine*, issued in 1856. Then, in sequence, we have the map of Lieut. Van de Velde, of the Dutch Navy, published about 1862. In 1865 came the foundation of the Palestine Exploration Fund and in 1882 that Fund issued a special edition of the *Map of Western Palestine* from surveys conducted by Lieuts. C. R. Conder and H. H. Kitchener; this special edition was printed to illustrate the Old Testament, the Apocrypha and Josephus. It is a large map on the scale of three-eighths of an inch to a mile, and is beautifully engraved by Stanford. It shows about 500 place-names.

In 1888 there was published by the same Fund a small book, entitled *Names and Places in the Old and New Testament and Apocrypha*. This contains 1150 names of places in Palestine, Mesopotamia, Sinai and Egypt, 'being it is believed all those that are mentioned in the Old Testament and the Apocrypha'. Of these names about 290 in Palestine and to the East of Jordan had not been identified, leaving some 500 sites identified in Palestine.

That classical work *The Historical Geography of the Holy Land*, by Sir George Adam Smith, was first published in 1894, and no fewer than twenty-five editions have made their appearance. It is indispensable for the study of the ancient geography of Palestine. It is illustrated by maps of the admirable type which we owe to the firm of John Bartholomew & Son. In 1915 there appeared the first edition of *The Historical Atlas of the Holy Land*, by the same author, with maps of the same character as the above, also by Bartholomew. The second edition is dated 1936. And lastly there is Père Abel's *Géographie de la Palestine*, in two volumes, of which the first was published in 1933 and the



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second in 1938 ; a work of great importance. The author remarks that ' la masse des travaux d'approche allait s' éclipser devant les documents suivants de la cartographie moderne ', and cites the maps of Conder, Kitchener, Mantell, Schumacher, Newcombe, Musil, Guthe, Legendre and others, and the official surveys.

The useful little map under review is not meant to compete with the large, comprehensive works above mentioned. It is essentially a handy map for the traveller and tourist, giving on one small sheet the principal sites mentioned in the Old Testament. Actually about 280 place-names are given. A note is printed that some of the identifications are controversial ; but the user may be assured that none is without authority, for the collaborators in the compilation are Père Abel, Dr Glueck, Professor Klein, the Department of Antiquities, and the British School of Archaeology. The great majority of the sites shown on this map are identical with those given in the 1882 map of the Palestine Exploration Fund. But there are some changes. For instance, Azekah, mentioned in one of the Lachish letters of 587 B.C., is marked a few miles to the south of Timnath ; Lachish is definitely Tell-ed-Duweir ; Gath has been moved 10 miles further to the north ; and so on.

The map is surrounded by an attractive border, the decorative motives being derived ' from the ivories found in the ruins of Ahab's palace at Samaria '.

No text seems to have been issued to accompany the map. It may be hoped that such a text may be published with future editions, for it would add greatly to the interest and value of the map, and would serve to show what progress is being made in the century-old task of identifying the ancient place-names of Palestine.

C. F. ARDEN-CLOSE.

THE MEDITERRANEAN WORLD IN ANCIENT TIMES. By EVA MATTHEWS SANFORD. *New York : The Ronald Press Company. pp. 618, 64 plates and 11 maps. Price 4 dollars 50 cents.*

This attractively written compendium of Mediterranean History is intended for use in American Universities and should command a much wider public. Beginning with Palaeolithic man and ending with the decline and survival of Rome in the 8th century A.D. the book covers a tremendous period of history which is treated in a broad yet comprehensive survey.

The author has had the advantage of personal contact with many of the leading American and European scholars and has brought a balanced and impartial judgment to bear in the discussion of innumerable problems. This book fills a definite gap in the field of ancient history and particularly for the chalcolithic period synthesizes a great body of research, much of which is still only accessible in the scattered records of excavators' reports.

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The careful selection and variety of illustrations is most welcome, for many of them are likely to be new even to well-informed scholars. Occasionally the reproductions are blurred and hardly do justice to the subject, but it is perhaps too much to expect a very high quality of picture in a mass production of the kind. On the other hand the book is very well printed with clear subdivisions and a well thought-out scheme of arrangement. At the end of the volume there are excellent reading lists.

This work can be strongly recommended for teaching and as a useful handbook of reference, and we must congratulate the author on her courage and enterprise in tackling so vast a subject.

M. E. L. MALLOWAN.

THE EVOLUTION OF MAN AND HIS CULTURE. By H. C. BIBBY.  
(The New People's Library, vol. xvi). Gollancz, 1938. pp. 93, illus. 1s 6d.

This little book is an attempt to give the Children of the Left a 'short, simple, authoritative' account of the evolution of man and of society. So far as it goes it is not misleading, judged by the standard of such productions; but it seems to the present reviewer to have two serious defects. It devotes a rather disproportionate amount of space to the earlier phases; and the account of the evolution of the State is definitely unsatisfactory. Why, for this latter, go to such sources as Perry and Engels when Professor Gordon Childe's authoritative books are available? (Engel's 'Origin of the Family' is described as 'a pioneer book, now rather dated but still invaluable'; but it was entirely second-hand, and based upon the work of Morgan). The author does not even seem to be aware of Childe's books, which are nowhere referred to. Yet Childe has presented a view of the early development of civilization which is not only regarded as authoritative by specialists but is also Marxist in the truest sense. For it applies the *principles* of Marxism to the results of modern archaeological research. We now know how and where the first great revolution (from nomadic to settled agricultural life) took place; and what were its social consequences. That is an important scientific achievement, putting completely out of date the earlier speculations (however legitimate and well founded) of comparative anthropology. The latter could only tell us how things *might* have happened; we are coming now to know how they *did*. The whole process consists of the interaction between first, man, and then organized groups of men, *i.e.* society, and the environment in which they lived. There is common ground, and the Marxists add (rightly, as we think) the class struggle. But, although the writer of this book quotes Marx, he is no nearer, we fear, to a proper understanding of Marxism in history than are most other Marxists. He does not realize that social history is the history of *tools* and of their effect on



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society ; and that what Engels said about the *gens* is far less important than what the archaeologist has found recently in Iraq, Egypt and India.

Nevertheless, we do not wish it to be thought that this book is without value. The writer has made a sincere attempt to convey some of the results of modern research to his readers, and he avoids many common errors. We criticize it rather on the grounds that it might have been very much better if written with a fuller and deeper comprehension, and if other sources had been used, as well as those (some of them excellent) quoted on the last page. O.G.S.C.

THE VICTORIA HISTORY OF THE COUNTY OF CAMBRIDGESHIRE  
AND THE ISLE OF ELY. Edited by L. F. SALZMAN. *The Victoria History of the Counties of England. Published for the University of London Institute of Historical Research.* Vol. I. pp. XIII, 436, 21 plates. Oxford University Press, 1938. £3 3s.

This fine volume forms a notable addition to the series of Victoria County Histories. The book, following the plan of the History as a whole, contains the accounts of the geology, botany and zoology of the county, with the record of early man, the history and archaeology of the Anglo-Saxon period and concludes with the Cambridgeshire Domesday Record.

The chapters on natural history, which form rather more than half the book, are written by specialists drawn from the University. The method of treatment varies in the different sections—thus in the geological chapter, compiled by the late Professor Marr and revised by Dr Dighton Thomas, there is a straightforward description of the stratigraphy of the county, with particular emphasis on the Pleistocene deposits. More extensive faunal lists would have been useful and have secured uniformity with the other natural history sections; there is hardly a mention of a single representative of the rich fauna of either the Elsworth Rock or the Cambridge Greensand. More serious is the criticism that the geological map does not incorporate the results of recent work, the outcrops of Ampthill and Oxford Clays are not separated, while reference to the geological map prepared for the Cambridge Meeting of the British Association 1938 reveals other differences. A comparison with that same map shows that, in so heavily drift-covered an area, stippling is a better method than layered colours of representing superficial deposits. Dr Godwin's treatment of the botanical section is on an ecological basis. It is especially here, in the discussion of the Fenland peats, that new evidence and new methods of investigation have contributed to the production of an account that could hardly have been written even twelve years ago. In by far the greater part of the Fens, drainage and agriculture have removed the uppermost layers of peat, so that only comparatively few isolated stretches of peat fen remain, of which Wicken and



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Chippenham are the largest. A photograph of vegetation in the former forms the frontispiece to the volume. The zoological chapter is a compilative work, the account of the Insecta naturally forming the largest part. Here research has hardly reached the stage to permit an ecological treatment and the greater part of this section is devoted to lists of species with notes on their occurrence and distribution, which show that all too many interesting forms have now vanished or become very rare.

Among archaeologists Cambridgeshire is famous for the influence of the early distribution studies of Sir Cyril Fox. Dr Clark's article on early man makes full use of this material, as well as of the results of later research for much of which he has himself been responsible. The rather meagre showing of the Palaeolithic period is due partly to lack of suitable exposures. For Mesolithic and later periods there is much more evidence within the county, though here the limitations associated with the somewhat artificial county boundaries appear, and the archaeology has often to draw on facts obtained outside Cambridgeshire. The important excavations of the Fenland Research Committee at the sand hillocks in the Ely fens have enabled Mesolithic, Neolithic and Early Bronze Age remains to be brought into relation with geological horizons. The results of a coordination of different methods of research are very apparent here, where a combination of the evidence from geological, botanical and archaeological lines of inquiry has resulted in much information about the character, chronology and environment of prehistoric cultures. The distribution-map shows in the Bronze Age a concentration of finds along the Fen margin, with a fair scattering over the chalk belt and the Fen islands ; by the Iron Age the progressive submergence of the Fenland restricted occupation to the Cam valleys and the chalk belt in the southeast of the county.

Cambridgeshire is a very rich field for Anglo-Saxon archaeology and Mr Lethbridge divides this occupation into three sections ; the Pagan Period comprising the fifth, sixth and early seventh centuries, which is partly overlapped by the Early Christian Period and lastly the Viking Age which continued to the eleventh century. The evidence for the first is abundant and comes largely from the numerous cemeteries distributed along the valleys. The great linear earthworks of the county which impede communication along the easy route of open chalk downland belong to the end of the Pagan phase. Later remains are more scanty, coming for the Early Christian Period mainly from the Burwell and Shudy Camps cemeteries, while for the Viking Age the series of weapons from rivers are the most notable finds. By the close of this period the villages had spread to the clay areas in the west of the county and the drift-covered slopes of the chalk, and their pattern as represented by the Domesday records is essentially the same as the present day village distribution.

K. ST. JOSEPH.



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THE OLD WATER MILLS OF NORFOLK. By CLAUDE J. W. MESSENT.  
With 60 pen and ink illustrations by the author. *Norwich : Fletcher,  
Castle Works.* 1939. pp. 64. 6s 6d.

The water-mills remaining in Norfolk number 60, some of which have ceased working. Mr Messent has been at much pains to publish a drawing, with a short description, of each of the mills, and in his introduction gives some particulars of the building materials used, the most common form being timber framing covered with lapped weather boarding fixed horizontally. For others the red local bricks were used, and there is one mill, at Hingham, built with the local clay lump. A useful record of a fast-vanishing form of water power.

WEST COUNTRY. By C. HENRY WARREN. *Batsford*, 1938. 8s 6d.

Those who love to wallow in purple passages, those who deplore the removal of ivy from old buildings, leaving them 'nakedly clean like a spruced-up corpse' (p. 114), those who are strongly attracted by 'picturesque bits' and picture postcard country, thatched cottages and roses round the door, should not fail to read Mr Warren's book.

The book starts promisingly with an explanation of how a geological distribution-map helps the study of a district: this promise is not so apparent when it is found that there is no such map, or, for that matter, any map, in the book. A little further on, the reader must surely be astonished by the statement that Bath is essentially 'foreign'. It is not easy to gather on what the author bases his conceptions of 'English'; the inverted arches of Wells Cathedral are 'too ruggedly English for certain minds', and the George Inn, Norton St. Philip, is 'the very spit of what we mean when we say "an English house"'. Perhaps the ordered town, deliberately planned, is too elegant to belong to this land; or perhaps all that is truly English must belong to the 17th century and earlier.

In spite of the sententiousness worthy of a provincial evening paper, of the atmosphere as completely rustic as the much-deplored advertisements for 'This England' issued by a certain brewing firm, Mr Warren's phraseology and choice of epithets is not always quite happy. Personally we should have found some other way of saying: 'the tons of white dung with which the screaming gulls have *sugared* some of the rocks' (p. 89). The 'green earth' (p. 11) seems, too, somehow to savour of corruption and decomposition: or does our imagination carry us away?

The most attractive features of this book are those little touches of folklore, for which the author considers an apology necessary, and descriptions of local customs. The text is lavishly interspersed with photographs.

QUENTIN DOBSON.